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EMBER 6, 1943
UME 32, No. 25

AMERICAN DYESTUFF REPORTER

TECHNOLOGY DEPT.
DEC 14
DETROIT

DYESTUFFS UNDER TEST

in Foxholes and Factories

VAST ARMIES of men and women in the military forces—and war plants—are putting dyestuffs "to the test." They're subjecting their uniforms to tropic sun, rain and mud . . . to sweat, grime and dust.

They're *discovering* that colors can be made to stand up under severe service. When they return to civilian life, they will have learned to expect *fast colors* in all fabrics.

So guard your present markets and plan for a bigger share of the post-war market. Use the highest quality dyes—vat dyes where they can be used and whenever Uncle Sam can spare them. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyestuffs Division, Wilmington, Del.

DU PONT DYESTUFFS
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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AN ASSOCIATION
TILE CHEMISTS
COLORISTS

UNION COLORS

for COTTON and RAYON PIECE GOODS

You can't cover up a two-toned, washed out dyeing job with a fine finish. **Cotton and rayon mixtures must be a solid shade to have sales value.**

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Some of these colors have been approved over many years for this purpose, while others are newly invented especially for union dyeing.

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is effective either for stripping or for level dyeing when working with many of the vat type dyes.

is a stable, dispersing penetrant for rotproof and mildewproof processing.

is economical and labor saving.

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HAVE one of our technical men bring with him a sufficient quantity for a practical mill run.
THEN judge for yourself as many mills have done and profited thereby.

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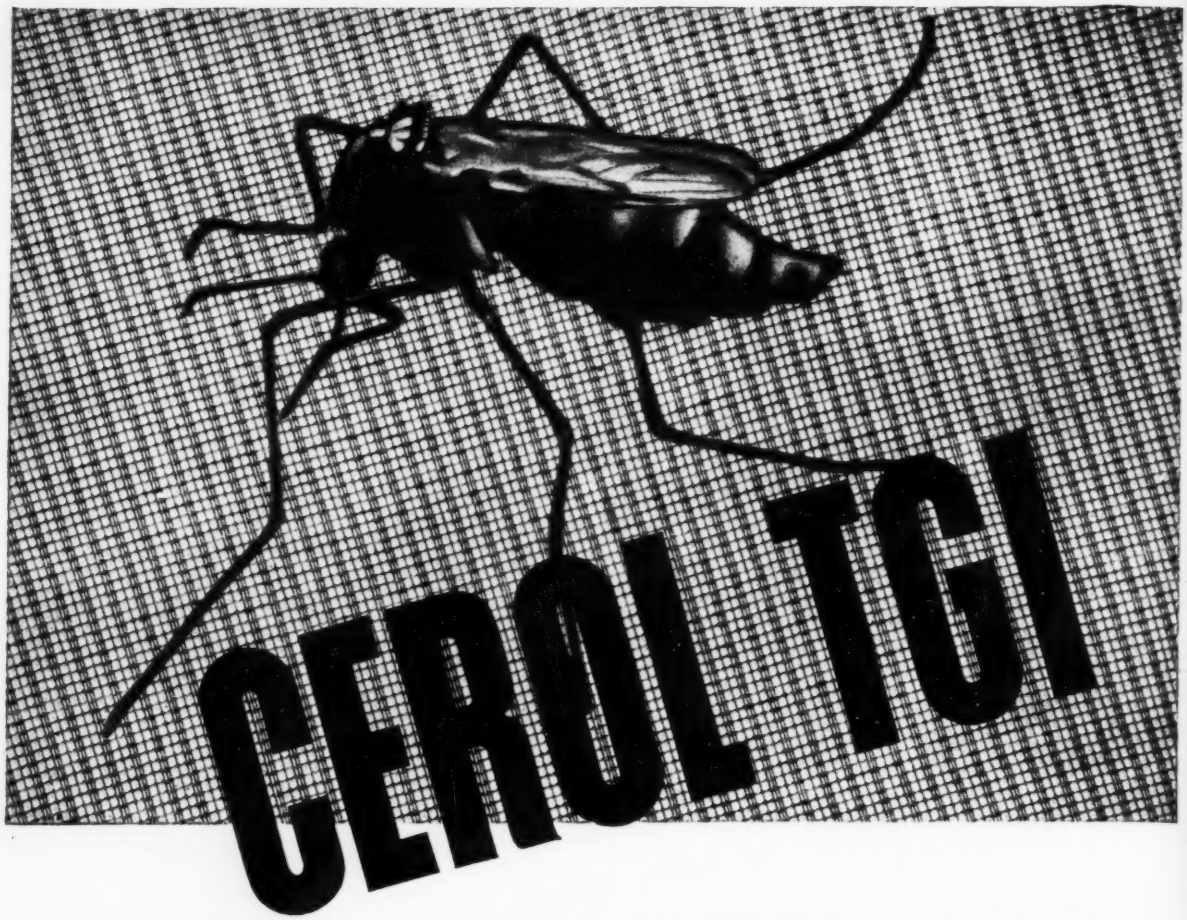

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At Last! — A Stable Emulsion. Now Sandoz presents a new member of the well-known CEROL family, a combined waterproofing and mildewproofing agent distinguished by extreme stability. CEROL TGI ends the danger of time lost in re-processing. By combining two operations in one, CEROL TGI greatly speeds up production.

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W. F. FANCOURT & CO.

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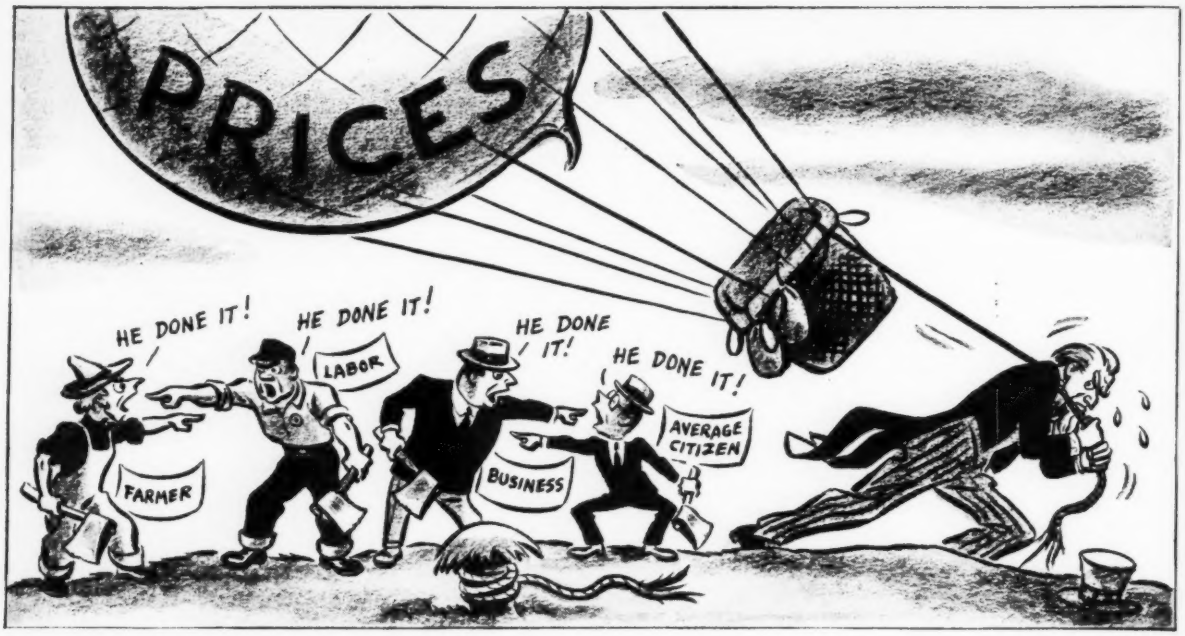
our armed forces encircle the globe

There are no boundaries . . . no limits to this world war. ★ It swings from the bleak wastes of the Aleutians to the fore-front of the European fortress . . . from ice-gripped Greenland to war scarred China. In this fierce conflict . . . there is no giving quarter no going half way . . . it is all-out all down the line. Our armed forces, valient in giving their best . . . deserve the best we can give them. ★ By far sighted planning General continues to follow through on all government orders . . . placing its strategic materials in thousands of vital places with the studied timing of an artillery barrage.

GENERAL DYESTUFF CORPORATION · NEW YORK

QUALITY DYESTUFFS



Never mind "who done it"—pitch in and help *get* it down!

THIS IS YOUR UNCLE SAM talking—but I'm going to talk to you like a DUTCH uncle, to keep all of us from going broke.

Ever since the Axis hauled off and hit us when we weren't looking, prices have been nudging upwards. Not rising awfully fast, but RISING.

Most folks, having an average share of common sense, know rising prices are BAD for them and BAD for the country. So there's been a lot of finger pointing and hollering for the OTHER FELLOW to do something—QUICK.

The government's been yelled at, too. "DOGGONNIT," folks have said, "WHY doesn't the government keep prices down?"

Well, the government's done a lot. That's what price ceilings and wage controls are for—to keep prices down. Rationing helps, too.

But let me tell you this—we're *never* going to keep prices down just by leaning on the government and yelling for the OTHER FELLOW to mend his ways.

We've ALL got to help—EVERY LAST ONE OF US.

Sit down for a minute and think things over. Why are most people making more money today? It's because of the SAME cussed war that's killing and maiming some of the finest young folks this country ever produced.

So if anyone uses his extra money to buy things he's in no particular need of . . . if he bids against his neighbor for stuff that's hard to get and pushes prices up . . . well, sir, he's a WAR PROFITEER. That's an ugly name—but there's just no other name for it.

Now, if I know Americans, we're not going to do that kind of thing, once we've got our FACTS straight.

All right, then. Here are the seven rules we've got to follow as GOSPEL from now until this war is over. Not some of them—ALL of them. Not some of us—ALL OF US, farmers, businessmen, laborers, white-collar workers!

Buy only what you need. A patch on your pants is a badge of honor these days.

Keep your OWN prices DOWN. Don't ask higher prices—for your own labor, your own services, or goods you sell. Resist all pressure to force YOUR prices up!

Never pay a penny more than the ceiling price for ANYTHING. Don't buy rationed goods without giving up the right amount of coupons.

Pay your taxes willingly, no matter how stiff they get. This war's got to be paid for and *taxes are the cheapest way to do it.*

Pay off your old debts. Don't make any new ones.

Start a savings account and make regular deposits. Buy and keep up life insurance.

Buy War Bonds and hold on to them. Buy them with dimes and dollars it HURTS like blazes to do without.

Start making these sacrifices now—keep them up for the duration—and this country of ours will be sitting pretty after the war . . . *and so will you.*

Uncle Sam

KEEP PRICES DOWN!

Use it up • Wear it out
Make it do • Or do without

This advertisement, prepared by the War Advertising Council, is contributed by this magazine in co-operation with the Magazine Publishers of America.

Pioneering
WITH Pigments
- one of a series of developments illustrating the advantages of Aridye* pigmented colors in new and significant applications

What! MOSQUITO NETTING IN ALASKA?

At either end of the tents used by U. S. soldiers in Alaska is a round ventilation sleeve eight inches in diameter and extending horizontally ten inches from the top of the triangle. To keep out the mosquitoes and other insects which, in Alaska, swarm in large numbers during both warm and cold weather, the outer ends of these ventilators, as well as the circular entrances, are equipped with mosquito netting of the same type that, for tropical climates, is used in jungle hammocks and mosquito bars.

To date, more than 50 million yards of military mosquito netting have been dyed and finished in a time-saving continuous operation, using Aridye* pigment colors. Since extreme light fastness is essential, pigments were chosen that could stand 300 hours in the fadeometer. Because of the need for shrinkage control, the binder selected was Ceglin†, a cellulose finish. Careful dispersion of the pigments in the vehicle and proper application on a good padder assured even, uniform dyeing of the fabric. Curing was then effected by a continuous process of coagulating the Ceglin in a souring bath, neutralization and drying of the fabric.

The resultant light fastness, improved finish and shrinkage controls are now available for the pigment-dyeing and finishing of many kinds of civilian fabrics. This new development means that curtains and knit goods can be dyed faster to light than heretofore, shrinkage can be controlled and the goods finished all in one continuous operation!

Successful and satisfactory results depend, as in all pigment-dyeing, upon three factors: (1) technically correct pigment colors (2) must be properly applied and (3) adequately cured.

An illustrated, more detailed folder has been prepared on the subject of pigment-dyeing of knitted cotton fabrics and marquisettes, and will be sent without obligation to all finishing plants requesting it. Send for your copy today!

Aridye Corporation is a sales agent for Ceglin, a product of Sylvania Industrial Corporation.

*Reg. U. S. Pat. Off. Aridye Corporation
†Reg. U. S. Pat. Off. Sylvania Industrial Corp.

Aridye TEXTILE COLORING MATERIALS

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PERMA-PAR PRODUCTS

PERMA-PAR-R*

A most efficient, substantive, odorless, cation-active softener that does not stain the whites.

We suggest that you prove this product in your plant.

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REFINED PRODUCTS COMPANY

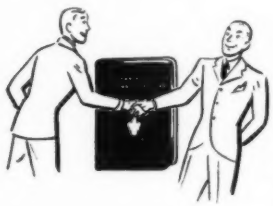
LYNDHURST • NEW JERSEY

New England Representative: E. L. LEGG, P. O. Box 597, Providence, R. I.

NOW IT WEARS THE TAG THAT SAYS "HAND WASHABLE—CROWN* TESTED!"

No. 17 of a series—from our files on the new "CROWN" Tested Plan

It's Cameo Crepe . . . and it's the *first* all-rayon pebble crepe to win this tag. Here's what happened.



As you know, Cameo is a house that has always gone all-out for honest-to-goodness quality and first-rate fabric performance. So when we introduced the new CROWN Tested Plan . . . it was, in effect, a meeting of minds. Proof came later . . . when the first samples of Cameo's rayon crepe came in for preliminary tests under our 48-hour service plan. For the tests on two of the colors showed slight changes due to gas-fading and sun-fading. That was when Cameo saw the true value of the CROWN Tested plan. No two ways about it, they agreed . . . their fabric should be able to meet our minimum requirements for color fastness to light and gas fading to make it truly hand washable.

So Cameo, their finisher, and our CROWN Tested Department got together and tackled the job. It didn't take long. Just a minor change in the routing procedure . . . and the very next test showed that the problems were solved. Now the fabric met these CROWN Tested requirements for hand washability:

Tensile Strength, dry . . . . . 20 lbs.
Seam Slippage . . . . . 15 lbs.
Dimensional Restorability . . . 2%
Laundering Temperature . . 105° F.
Resistance to Perspiration . . Acid and Alkaline
Resistance to Sunlight . . . 10 hours
Resistance to Atmospheric Fading . . . . . AATCC Test

Cameo Crepe . . . selling under the AMBER CROWN Tested Tag . . . is now filling both military and civilian needs. It makes those wonderful long scarfs for fliers and naval officers. It makes blouses too . . . in luscious shades of maize, blue, beige and pink . . . that are *really* hand washable. And in every sale to a satisfied customer, the CROWN Tested Plan again proves its value to this converter who insisted on top fabric performance.

If you buy, sell, or process rayon fabrics . . . may we show how it can do as much for *you?*

Are You Preparing for Postwar Selling?

Today foresighted converters are getting ready for tomorrow's buyer's market. How about you? When victory comes, you can count on this—Better, more reliable fabrics will give you the edge on competition . . . and the CROWN Tested Plan will help you produce those fabrics.

So why not build customer and consumer confidence the CROWN Tested way? The facilities of our fabric collection, our Fabric Development Department, and our experimental laboratories are ready to help. Under the CROWN Tested Plan you can prove . . . or improve . . . the performance of your rayon fabrics, and pave the way for better sales now and in the future.

NEW INFORMATIVE LABELING

Consumer Satisfaction under the Three Tag System

"Crown" Tested Rayon Fabric

*Reg. U. S. Pat. Off.

This is a stabilized fabric. Tests predict it will not change visibly in color or in texture, nor in size more than 2%, if instructions are followed. Samples of every dye lot of this fabric have been tested for stability and strength, according to minimum requirements set and maintained by

AMERICAN VISCOSE CORPORATION

Producer of CROWN Rayon Yarns and Staple Fibers

Sales Offices: 350 Fifth Ave., N. Y. C. 1: Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

Copr. 1943—American Viscose Corp.

Olate

for the Safe Processing of All Fibers and Fabrics

Today, when safe, efficient processing is so vitally important, the soap you use in your wet finishing operations must really "deliver the goods." And in countless textile mills throughout the country Olate is doing just that.

In the interest of economical, efficient and safe production it will pay you to check the qualifications of Olate against those provided by the soaps or other processing agents you may now be using.

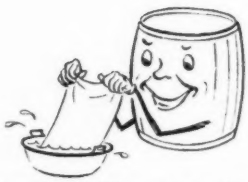
EXCEPTIONALLY LOW TITER

Rapid solubility is one of many Olate advantages. Saves time, labor, steam.

RAPID, THOROUGH RINSIBILITY

An important safety factor in processing any fiber or fabric. Olate rinses freely even at lower-than-average temperatures.

THOROUGH YET MILD CLEANSING ACTION



Olate's cleansing action is as gentle as it is thorough. There is probably no safer soap available than pure, neutral Olate—nor one with better detergent action.

STABILITY AGAINST RANCIDITY

Careful selection and refinement of the oils used in Olate—and exacting processing safeguards—make it unusually resistant to oxidation and rancidity. Coupled with Olate's free rinsing properties, this Olate advantage is an important safeguard against fabric discoloration or odor troubles.

Let this safe, efficient textile soap help smooth out *your* wartime processing difficulties.

Procter & Gamble

Olate *the universal textile soap*

Eastone* Red R

*Eastone** *Red R* is a highly soluble product suitable for dyeing medium bright shades of red on cellulose acetate rayon. Over a wide temperature range, level shades of substantially the same depth are produced in either jig or box dyeing.

Red R is being used extensively either as a self-shade or in combination with other dyestuffs which have drawing and absorption power adaptable to the type of dyeing work that is employed. Its excellent fastness to sublimation recommends it for application printing. The color can be stripped from dyed pieces.

Eastone Red R is one of an expanding line of Eastman Acetate Dyestuffs, which are available in a wide color range. For information concerning these dyestuffs, consult our New York Sales Representative, 10 East 40th Street, New York, N. Y., or write TENNESSEE EASTMAN CORP. (Subsidiary of Eastman Kodak Company), KINGSPORT, TENNESSEE.

EASTMAN ACETATE DYESTUFFS

**"Eastone" is a registered trade mark and denotes a type of dye which is dischargeable, as well as usable for plain dyeing.*

Indigosols

for Pink Shades of Good Fastness

INDIGOSOL Pink IR EXT. and INDIGOSOL Brilliant Pink 13B are two products in this soluble vat color group which are unexcelled for the production of pink shades of good fastness. They are unequalled, in the fast color group, for ease of application, clearness of tone and the solidity of color in any depth. They can be printed, padded, or dyed on any textile fibre.

All INDIGOSOLS are readily soluble, easily developed and economical to use.

Pharmasols

for Bright Reds and Scarlets

PHARMASOL Scarlet RR Conc.
PHARMASOL Scarlet SNX
PHARMASOL Red GNBS, and
PHARMASOL Red RN

are the outstanding members of the group of azoic colors producing full and bright Reds and Scarlets of excellent fastness at a low cost.

PHARMASOLS are stabilized solutions, adjusted to the most practical concentration, which can be easily applied with a maximum of efficiency. As they do not decompose they overcome the problem of troublesome dissolving.

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DECEMBER 6, 1943

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ANOTHER NATIONAL CONTRIBUTION to our WAR EFFORT
Screaming down at six miles a minute Stukas, mistaking their own tanks in the swirling dust of battle, divebombed Mark IV's.
But our boys won't make that tragic error. For our tanks, going into battle, signal supporting aircraft with a new development of the Chemical Warfare Service—a vivid smoke bomb which unmistakably distinguishes friend from foe. Set off instantly and color-coded, these smoke signals are visible from 10,000 feet.
Thus National Dyes, specially formulated for pyrotechnic use, join the long list of products developed by National Technical Service for arming, clothing and protecting the health and lives of our armed forces.
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BOSTON PROVIDENCE CHICAGO PHILADELPHIA SAN FRANCISCO CHARLOTTE GREENSBORO ATLANTA NEW ORLEANS CHATTANOOGA PORTLAND, ORE. TORONTO
ADVANCING they give the COUNTERSIGN

AMERICAN
DYESTUFF REPORTER
VOLUME 32 DECEMBER 6, 1943 NUMBER 25

TEXTILE DEVELOPMENT
During the War*

LEONARD S. LITTLE
E. I. du Pont de Nemours & Co., Inc.

THIS paper will cover that phase of textile progress in which a few typical new chemical products or processes have resulted in new or improved textiles.

COLOR

First, let us look to the important field of color. When World War I involved the United States it found us approximately 95 per cent dependent upon Germany for our dyestuff requirements. A temporary industrial structure had to be developed to take care of the bulk of our civilian and war requirements above what dyestuffs could be purchased at constantly soaring prices from obtainable foreign and domestic stocks. The result was that American ingenuity produced dyestuffs in a remarkably short period of time but, naturally, not of the high quality desired. World War II found the United States manufacturing 95 per cent of its color requirements of enviable quality. The dyestuff field in the 20 odd years intervening has been thoroughly explored so that new dyestuffs of outstanding quality appear at greater intervals than was the case in the earlier stages of development. The expansion of dyestuff output has become more and more complex, especially with the greatly expanded war demands for dyestuffs of the highest quality—Anthraquinone type vat colors. It has been the commendable determined policy of the procurement divisions of our armed forces to see that our fighting men are supplied with only the most suitable fabrics colored with the best quality dyestuffs. Consequently, there has been a very large expansion of the equipment, suitable for making the better type dyestuff, which is running on around the clock schedule. The result is that we now have a very large capacity for the manufacture of quality colors.

EFFECT OF WAR DEVELOPMENT ON POST-WAR ECONOMY

What may we expect to be the effect of our war dyestuff development on our post-war civilian economy?

(1) With the shortage of fabrics and fibers, the art of textile manufacture has grown materially in design and in the ability to blend various old staple fibers and new synthetics. In the post war period we would expect extensive studies in the development of much more intricate fabrics composed of blended fibers. This will require more and more scientific research in the further development of dyes and dyeing processes to successfully color these complex textiles. The colorings will have to meet the increased demand for a broad range of color practically covering the expanse of the spectrum and, at the same time, meet the growing demand for true color durability.

(2) The soldier, sailor, and workman supplied by the various quartermaster departments through war necessity have created a large group educated to expect a degree of durability in fabrics considerably in excess of pre-war demand. The result has been that many millions of people have been conscious of the quality obtainable for use under extremely severe exposures of textile fabrics to wear, laundry, and the elements.

(3) We expect that a consciousness of the economy of darker colors in garments as against those made from white or delicate shades especially on utility and work garments, will show itself in the demand for this type of material after the war. The experience in the radical change in the policy of the Navy Department in the introduction of the new gray shade for enlisted men's and commissioned officers' uniforms and the extension of the olive drab shades for work garments, will be a potent example of color economy.

(4) The great expansion in the technique of preparation, dyeing and finishing of fast colors, especially in the heavier army type fabrics, has resulted in greatly improved uniformity, penetration and fastness. *High speed methods* have been developed which we thought impossible several years ago. An outstanding development has been the continuous dyeing of Indigo on Navy wool flannel, and another is the successful dyeing of olive drab No. 7 in the modern continuous vat dyeing range. The stage is set for

*Presented at Cotton Textile Institute Round Table October 20, 1943: "Consolidating War Time Gains of Cotton Textiles."

the development of utility garments having greater durability qualities and color conscious beauty—artistic as well as durable, with a minimum of added cost. The textile industry has a golden opportunity to build quality to an active demand, and the dyestuff industry is in the best position it has ever been in to satisfy those demands.

(5) The key-note in post war development for the textile industry might well be built around the slogan of "Beauty with Durability." It is particularly true in this industry that many fabrics have multiple uses, so that it is not predetermined as to where the fabrics are to be actually used, whether they ultimately will appear as coverings for household furnishings, sportswear garments or whatever. Where has the greatest progress been made in fabrics? Here are a few; fast color constructions for the work clothing field—fast color shirtings where over 50 per cent today are dyed or printed, fast color printed draperies and fast color towels, etc. With the development carried forward into the present war period whereby textile fibers in almost any stage of manufacture can be dyed continuously in fast color, great strides should be made after the war in the whole field of textiles where yesterday fast color seemed an impossibility, such as in auto upholstery, outerwear and sport fabrics, filament and spun rayons, etc. People are buying more high style progressively as color quality improves. Where would the worsted industry be today if the old standard blue serge for both men and women held its old time position?

FINISHING DEVELOPMENTS

Because of the shortness of the time allotted to the papers presented at this round table, I will confine my discussion to a few outstanding chemical products which I think best illustrate the type of textile development which, in my opinion, will affect the post war growth of the industry to a considerable degree. As illustrative of a type let us take the field of water repellents as applied to textile fabrics. For many years the average finishing plant finished a limited line of fabrics in a two bath application of soap and a wax followed by a bath of a material such as acetate of aluminum to precipitate a metallic wax mixture on the fabric. Later, chemical plants developed a one bath method employing somewhat similar ingredients which produced, usually, an improved repellency. Five years ago the first of the durable repellents appeared. Today many millions of yards are required by our various quartermaster departments in this improved type of repellent finish to protect our men and equipment under the most trying conditions.

It was soon learned that just the working out of the technical process of the application and the continued improvement of the product itself would not give the civilian at work or at play, nor the soldier in the field the protection he required. One of the first major approaches to the study of this problem was made by the New York Section of the A.A.T.C.C. in their contest paper delivered in the fall of 1941 on the subject of "Fabric Construction vs. Water Repellency." This study pointed the way to further studies by the research laboratories of the Army, Navy, the Bureau of Standards and by individual laboratories such as our own Du Pont Fine Chemical Laboratories, as well as other research and plant laboratories. The focus of the study has been to evaluate and develop fabrics which singly or in combination give the greatest protection to the wearer or to the unit under greatly varying conditions. This means that no one fabric or combination of fabrics is the best for all purposes.

Although considerable progress has been made in the creation of specialized clothes for weather resistance by our leading mill and converter set-ups, there is room for still further extended research to develop new fabrics giving the highest protection and service at reasonable costs. In this development, additional and specialized studies should be made to fully evaluate the effects of the yarn sizes, the plying and the twist of yarns, the various weaves, thickness of fabric, balance of construction, etc. The importance of the various factors will be determined by their use. Besides the study of individual fabrics a further investigation should be made on combinations of fabrics, as indications to date point to the greatly added efficiency of double thickness garments with both fabrics durably repelled as in the new Army field jacket. In the studies under way, attention is being given to the value of a napped repellent fabric especially suitable for the under fabric for resistance to water penetration and from a warmth standpoint.

In many cases, radically new instruments and test methods have had to be developed to enable the selection of the fabric or combination best suited for a particular purpose. A new spray test to determine the quality of the application at the finishing plant was developed. Air permeability became an important factor in measuring wind resistance. Water impact penetration test methods have been developed to measure the resistance of a fabric to water under varying pressures. The latest study is turning to the evaluation of the warmth factor in fabric and combination of fabrics by new thermal transmission units recently developed. Out of these studies improved garments are being constantly developed by the research and development section of the various quartermaster depots. From their vast experience in chemical application and fabric development, we are already in a position to start our civilian post war programs for greatly improved durable fabrics which are desired by the consuming public and at costs that will not be prohibitive.

This use and knowledge of durable water repellency in relation to better color and fabric construction now being tried under severest service conditions in the war period, gives impetus to the growth of many other types of garments not now usually associated with water repellency. Water repellency service features are proven—and like the airplane, are here to stay—they will take a big bite in new fields of post-war wearing apparel business.

(Concluded on Page 554)

Practical Dyeing by the

PACK SYSTEM*

T. E. CLARKE

President, Society of Dyers and Colourists of Australia

THERE is much to be said in favor of pack dyeing of yarn, but there are also limitations. However, its advantages are many, and its insurmountable disadvantages few. From an economical viewpoint, a liquor ratio of 8 to 1 as against 20 or more to 1, is to be desired, as regards saving of steam, dyes and drugs. The following matter refers to cheese dyeing in an 8 to 1 ratio and hank dyeing on a rotating arm machine, working in a ratio of 30 to 1. Dyeings under these conditions show a saving of dyes of from 5 to 20 per cent, depending on the class of color and its degree of exhaustion. One fast-to-light direct grey, exhausting very well, in a 2 per cent self-shade shows a saving of 20 per cent of dyestuff using the same concentration of exhausting agent when dyed by the pack system. The saving in auxiliaries is even more marked, the low liquor ratio reduces most of them to less than 50 per cent of that necessary in a 30 to 1 liquor, and the circulation of the liquor by force does a great deal of its own wetting out, so that a still further cut in penetrating assistants can be made. Thus, for example, 100 lb. of yarn being wetted out in 80 gal. of water on a lower concentration of penetrating assistant than 100 lb. in 300 gal. This follows in all operations and types of dyeing, aftertreating, etc., most particularly so in after-soaping, where perhaps an abundance of foam is to be desired for carrying away particles of loose color as in the case of vat dyeing, for here again the high-speed centrifugal pumps can provide quite a wonderful result on a very small amount of soap.

SOLUTION OF SULFUR DYES

The dyeing of sulfur colors presents somewhat more difficulties to the cheese dyer than any other type—azoics excepted. The shades are usually heavy and tinctorial yield low, so that considerable amounts are usually required. The dyes are inclined to be dirty, that is, to contain varying quantities of insoluble matter, or matter which is stubborn in dissolving. Commercial brands of sodium sulfide used to dissolve them also contain quite large quantities of impurities, and suspended matter. What will happen when such a solution is passed through a tightly-compacted mass of cotton which is a perfect filtering medium? The dyer, by careful selection, will ultimately find a suitable range to meet all requirements. Solubility is unquestionably the greatest factor to consider, and no solution of dyestuff should ever be entered into the machine unless perfect solubility exists. It is better to reject an imperfect solution and cut losses.

Having assured a well-chosen range of sulfur dyes, the dyer should then make himself thoroughly conversant with the best means of bringing them into perfect solution, studying the characteristics of the individual dyestuffs. While the normal routine for dissolving them may be quite satisfactory for the open hank, long-liquor process, it does not necessarily follow that the same applies to cheese dyeing. A slight state of suspension, small quantities of insoluble matter, turbidity, etc., will always cause trouble to the cheese dyer.

There are many things which may influence the dissolving of sulfur colors, and conditions which apply in one dyehouse may not apply in another. It is confusing to note one authority recommending a reduction in the amount of sodium sulfide while another favors an increase. One must use enough to bring the dye into solution and not too much to result in the loss of shade. The use of sodium sulfide should be kept under very close supervision. An increase might appear to avoid the risk of undissolved color, but a certain reducing action seems to take place in circulating liquor machines of the centrifugal pump variety when liquors of a high *p*H are involved. This, in conjunction with excess sodium sulfide, exposes the dyeing operation to the risk of dyestuff precipitating from solution in an insoluble form, thereby presenting the dyer with an infinitely greater problem than one of undissolved color.

Thought on the part of the individual user to discover the best condition of a solution of sulfur dyes would make them more popular. One should use a stock solution of sodium sulfide prepared two or three days prior to using rather than add the solid brands to the stock dye bath. A solution from which all insoluble matter and impurities have been allowed to settle will thereby be available. Starting with an amount of 20 per cent under the generally recommended quantities, dissolve 50 gm. of the test sample in one liter of water inclusive of sulfide solution. Filter off and note the residue, if any. If a perfectly clear solution is resultant, repeat, using a further reduction of 10 per cent of the sulfide, and continue until the lowest figure, resulting in a perfect solution, has been obtained. For practical purposes use this amount plus 5 per cent of its own weight.

By this means the dyer will find that in many cases he will be using less than half recommended quantities, and

*Reprinted from Textile Journal of Australia, 18 2, 81.

at the same time will produce a cleaner and fuller shade.

In the open machines higher concentrations of sodium sulfide are quite safe and do not readily affect the dyeing. Both the dye bath and the material are exposed to the air, and are undergoing an oxidization during the dyeing period, and to offset this really require a greater excess of sodium sulfide. A certain reducing action takes place in the circulating liquor cheese machines, neither the liquor nor material is exposed to the air, and it is quite safe to operate on a minimum of sodium sulfide, avoiding precipitation.

DIRECT COLORS

The dyeing of direct colors on cotton by the cheese method presents no major problems. A little close observation makes the process very flexible, and unless exceptional circumstances demand it, previous boiling out may be dispensed with entirely. Owing to uniformity of wetting out, color may be added to the initial bath and dyeing proceed as normally, thereby giving greater satisfaction in the condition of the yarn—less fiber damage and less loss in weight.

But the properties of the various dyes require a little consideration. By careful selection of a wetting out agent that will react kindly to the dyes themselves, and by judicious use of exhausting or retarding agents all shades, from the palest to the deepest, may be safely applied in the initial bath. Frequently, light shades require only two baths, the initial bath and a rinse, and their time for the complete dyeing is less than an hour, inclusive of filling and emptying the machine.

Blacks, navy blues, and heavy shades, can, of course, be added direct to the dyebath, and it is advantageous to do so at temperatures from 180° to 195° F. This ensures a satisfactory wetting out of the goods and lessens any possibility of trouble due to undissolved color. If large quantities of dye are dissolved in small vessels prior to entering the dye machine, the possibility of improperly dissolved color is always present, and by entering at the higher temperature the dissolving process is materially assisted.

Most authorities recommend adding the color slowly while the liquor is circulating through the spindles. I prefer to enter the color rapidly while circulating into the body of the machine, continue pumping for 60 sec. and then changing the flow to the spindles and changing the direction of the flow at desired intervals. Again it is a question of solubility. If there is any presence of color in suspension, by entering the body of the machine, it meets the greater volume of liquor and has a greater opportunity to becoming dispersed than if it is pumped immediately up the spindle columns, in which direction it is in a more concentrated form when it comes in contact with the material to be dyed.

The object in entering via the spindles seems to be that circulation is slower in this direction, which is a compensation for the delay, and also the outer surface is more in contact with the dye baths, and is thereby receiving more attention by the dye. This may be so, but for the amount of time lost in circulating through the body the bath cannot possibly have suffered any great degree of exhaustion before changing over, and if it has done so it is not in a correct condition for cheese-dyeing. I favor treating even the rapidly exhausting vat colors in this way.

It may be found that more trouble rises with direct dyeing from causes apart from the actual dyeing operation, and principally from lack of attention to detail in ensuring that the goods are placed in a safe position, and without undue delay after leaving the dye machine; more particularly so where a stove dryer is in use. Delay in hydroextracting, inefficient hydroextraction and allowing too long a time between placing the material into the stoves (such a compact mass will, of course, require a longer drying time than will open hanks, and will be more subject to color migration), and any unnecessary delay will aggravate the possibility of good work being spoiled.

For cheap and relatively unimportant work, where shades are dyed with dyes of poor washing fastness, it may become necessary to double hydro extract cheeses. That is, reverse them end for end and give them a second run to eliminate the possibility of migration to one end, owing to the higher moisture content which will inevitably be present at the end adjacent to the hydro basket wall. These faults are purely elementary, and by a little careful supervision are easily avoided.

VAT DYEINGS

Perhaps the most noticeable advantage of package dyeing is to be found in the application of vat dyes, for here is found the greatest economical difference compared with the open hank method, and less of the general problems that are liable to occur during the dyeing operation. Here again, the short liquors, coupled with the extremely low degree of oxidation, and the assistance gained by the aforementioned reduction, not only shows a saving of dyes and drugs, but allows for lengthy running times without the necessity of additions of hydros, etc. The pack system of dyeing also enhances the prospect of greater uniformity of running.

I might at this juncture draw a comparison of a medium shade of brown I have recently had reason to apply by both methods—400 lb. yarn dyed in an 8/1 ratio required 7 lb. of hydrosulfite, inclusive of the amount needed to vat the color, whilst 50 lb. of the same material dyed on the rotating arm machine 30/1 ratio required 12 lb. of hydrosulfite, inclusive of subsequent additions, to offset oxidation. There was also the added advantage of the saving of 10 per cent of the dyestuff, not to mention other chemicals, and, although the vat dyes are noted for their very high degree of exhaustion, it is a very profitable proposition even for a small saving of these very costly products alone.

Very pale shades of vat colors where exhaustion is extremely rapid, require considerably stronger concentrations of retarding agents for package dyeing than they nominally do by the long liquor processes. It follows that in dyeing pale to medium shades with such rapidly exhausting dyes the process requires to be slowed down, and in this respect the short liquor baths are somewhat at a disadvantage, and, therefore, a higher concentration of retarding agents is necessary. This seems the only occasion where a necessary

commodity may be of greater cost by the package system. Many medium shades usually dyed in long liquors without the addition of retarding agents may still require an amount in short liquor package dyeing to ensure level results, but in all cases the difference will be more than compensated for by the saving in other chemicals involved in the operation. For deep shades retarding agents can be dispensed with entirely.

ADDITIONS AND STRIPPING

The addition of color to circulating machines follows more or less the general rules for any type of dyeing, but an inexperienced person may find he will have to completely revise his estimation of color loss if a new bath is necessary. The degree of stripping of the absorbed color is considerably less than that applying to long liquor baths. It may be found, on some colors of no great washing fastness, that a loss of 25 per cent in depth may result by the long liquor baths, referring to direct colors, whereas perhaps less than 15 per cent will be the resultant stripping of a similar shade dyed on cheese in an 8/1 ratio. The actual dyes used and the depth of shade of the dyeing influence the color additions considerably, other than the actual amounts added. They, for instance, govern the amount of "fresh bath" that may be necessary to reduce to a desired temperature before the addition or the dilution of bath made necessary by the presence of exhausting agents. Some of the particularly good levelling dyes can be added to the initial bath at 195°F., even in relatively pale shades, without any great fear of uneven results.

Should a dyeing be too heavy for any reason and require boiling off, it will be found that where the desired stripping may be easily attained in long liquors, two or more baths may be necessary in a circulating liquor cheese machine. This, of course, applies equally to all types of dyeing, and is perhaps more noticeable in vats than direct or sulfur dyes. As in pale shades, the loss in depth when making additions in a completely new bath is extremely low.

Additions to vat baths can be conducted quite safely in the great majority of cases without reduction of liquor. Where some of the extremely fast exhausting vat blues (which do not lend themselves kindly to the use of retarding agents) are concerned, it is more expedient to use a fresh liquor starting cold, at which temperature their affinity is somewhat lower than at the general dyeing temperature of approximately 140° F., and their loss in depth in fresh baths is noticeably very low. Pale shades that are only very slightly over depth are quite difficult to reduce to shade if blank baths of caustic soda and hydrosulfite alone are used.

WINDING

In package dyeing the dyer is perhaps at a greater disadvantage than he is in respect to hanks, in the reception of goods in correct condition for dyeing. If due care has been taken by the winders, hanks should offer no major difficulties to the dyer. They may be too large, badly tied, improperly conditioned, or suffer from some such detail, most of which disadvantages are visible, and measures can usually be taken to prevent the dyeing from coming to grief through them. But with cheeses, the dyeing is greatly dependent on consistently good work by the winders. Firstly, a winding machine with uniformity of winding from end to end is to be desired, and is the correct apparatus for the job. Some machines are fitted with such a traverse motion as has a tendency to make cheeses with convex ends and concave centers, and, while dyeing can be conducted successfully with their use, it is to be avoided if at all possible. Uniformity of size and tension is very important, as by these defects, an uneven flow of liquor will result. A number of small cheeses present in a dyeing will result in the liquor coursing rapidly through them to the detriment of the remainder of the batch. Oversize cheeses will also suffer in the same way if inadvertently placed in the machine with a majority of correctly graded cheeses.

CARRIERS AND UNIFORMITY

The fabric used for foundation of the winding where spring carriers are concerned should also be given due attention. Long sloppy ends become puckered up and assist in forming a bad contact between cheeses, and not only will pressure leak past the union, but poor penetration will result in the vicinity of the jam. If the fabric is too short, the yarn will collapse through the spiral of the spring, and not only will it jam and cause undyed patches, but it will inevitably result in much waste in rewinding. Threads running out of the traverse motion and causing a hump on the cheese will cause a deflection of the flow, and a faulty dyeing will result.

Color matching requires a little more attention, and it is advisable, before passing batches as satisfactory, to rewind a cheese (after drying) to the center, and one completely, and make a comparison on the three sections, this most particularly so when dyeing for weft work. If batches are passed out indiscriminately for this purpose, the inevitable will happen, and the dyer may be faced with a large quantity of good work ruined by the one batch that went wrong.

A batch which to all intents and purposes is quite perfect can on rewinding present some nasty shocks to the dyer.

Various types of yarn carriers or holders are in use. Some favor springs, others steel spindles for the individual cheese, some favor treated cardboard tubes or cones. I have only used springs, and, for experimental purposes, cardboard tubes. Taking all in all, but on meager knowledge of other containers, I think springs are more suitable than any other method.

Granted, where sulfur, vats and the water insoluble dyestuffs are concerned, an isolated cheese will receive better attention than a column of springs in the soaping off—there is a freer passage of liquor round the ends of the cheese, whereas in columns of springs any defect in the soaping of such colors usually becomes more prominent at the union of two cheeses. It is really the only factor in favor of non-collapsible carriers.

With the non-collapsible type, much loss in production results, more time is taken in loading and unloading machines, and the loss in weight per batch will, of course, in-

crease the liquor ratio, and thereby detract from the saving of dyes and drugs. Likewise the subsequent processing is slow if the cheeses have to be hydro-extracted and loss by damage to the carriers is considerably greater than if springs are used.

Textile Development—

(Concluded from Page 550)

During the current period we have seen the development of many other important chemical applications to fabrics which will be covered by Mr. Edgerton's paper and including fabrics resistant to shrinking, creasing, mildew, fire and many other important features. We have seen the development of many new items in water-proof and coated textiles with the substitution of rubber by neoprene and other synthetic substitutes such as poly-vinyl resin. To name a few important uses: Kapok filled life-preserver jackets, self-sealing fuel cells for combat aircraft, arctic sleeping bags, coverings for jungle hammocks, Ventube ventilating ducts, bags for fuel oil and gasoline, canvas coated work gloves, industrial diaphrams, and neoprene treated curtains for gas protection in dug outs and in gas masks. Here again color plays a leading role in its cunning for camouflage purposes, and durability is again stressed in the need for these coated textiles to stand up in the hottest jungle or sub-zero arctic climates.

We, in the chemical manufacturing industry, who supply the textile manufacturing, bleaching, dyeing and printing requirements of the textile industry, are endeavoring to do our part in outstanding post war program through extensive research and product development. In our own section, we feel that an important part of that program will be in specialized new fabrics made of standard age-old fibers. Equally important progress will come through interesting novel fabrics made from the new synthetic fibers and their combinations. It is further felt that a strong desire for high colors in wearing apparel for both men and women will result when the drabs of service colors are laid aside.

High quality and durability of fabrics, colors, and finishes will be *expected* by those now in the service because they've had them and know their value. The "Home Front" consumer will *demand* them because they have had to do without them, in many cases, so that those who actively served might have them.

We have a real challenge to see that high quality is maintained in post war times to meet this demand. Never has our industry been in a better spot to go *ahead* in this desire for finer durable textiles. Our test tubes are bubbling over with splendid new developments which the public wants and we want to give them. It's a wiser public we will have to face—one that will demand to know the true quality of what they are getting. The leaders of the textile industry should be giving serious and thorough study and thought as to how to intelligently and honestly give that information to the public and benefit all concerned—from the cloth manufacturer to the consumer. It's industries' job and one that offers a real avenue toward greater growth and development.

Research and Planning

J. E. Bullard

IT has been suggested there should be centralized planning of all research, toward the end there will be less wasted effort. Such a suggestion, of course, if it means that a small group is to plan all the research work in the United States, indicates failure to understand fully the nature of such work. Many of the greatest scientific discoveries have been made more or less by accident and few of them according to plan. Also, it would seem wise to wait and discover if centralized planning of research may have been the cause of difficulties Germany has experienced in the conduct of the war.

There are those who believe the day of the independent, individual research worker is past, that in the future all research work will be confined to large and well equipped laboratories. If centralized planning should be adopted and all the planning be centered in some bureau or combination of bureaus in Washington, there probably would be no place left for the independent, individual worker. Just how much progress we could expect under a government program which exercised complete control, however, is indicated by incidents in past history.

In England, the ancient tally stick was used for keeping certain government records up to 1826. This, certainly, does not demonstrate the government was quick to apply new methods and make the most of new knoweldge. Instead the old methods were continued long after they had ceased to be of any practical value.

In the tenth century, the Arabs adopted the Indian numeration including the symbol zero. The struggle against the adoption of Arabic numerals in Europe continued from the eleventh to the fifteenth century. In some places they were banned from official documents. In others their use was prohibited entirely. Not until the illegal use of these numerals had become so general as to make bans and prohibitions ineffective did vested interests and governments cease to resist and permit the general use of our present system of numeration.

Such dangers always exist in any centralized planning and controls. Standards are set up and they may interfere with progress. These United States have forged ahead, to the marvelous degree they have, largely because of the freedom of action allowed. Much and in some cases practically all of the pioneering in new industries has been done

(Continued on Page 569)

PROCEEDINGS OF THE

American Association of Textile Chemists and Colorists

DECEMBER 6, 1943

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Members should notify the **Secretary** immediately of all address changes.

ONE HUNDRED AND THIRTY-SIXTH MEETING OF THE RESEARCH COMMITTEE

THE Research Committee held its 136th meeting at the Chemists' Club in New York City on Saturday afternoon, October 23, 1943. Present were Chairman Louis A. Olney presiding, A. I. Anderson, W. D. Appel, K. H. Barnard, E. C. Bertolet, W. H. Cady, E. S. Chapin, H. Christison, J. L. Crist, J. N. Dalton, J. D. Dean, C. Z. Draves, A. R. Fletcher, A. H. Gaede, A. H. Grimshaw, H. M. Hartnett, N. A. Johnson, H. V. King, W. Klaas, D. P. Knowland, H. W. Leitch, L. S. Little, O. F. Marks, J. F. McCoy, J. E. Meili, W. R. Moorhouse, A. D. Nute, P. M. Otto, W. F. Prien, F. A. Prisley, C. N. Rabold, B. A. Ryberg, C. H. A. Schmitt, C. A. Seibert, T. R. Smith, R. H. Souther, F. M. Steadman, H. W. Stiegler, F. Tripp, B. Verity, W. v. Bergen, P. J. Wood, H. L. Young and H. C. Chapin, Secretary.

On recommendation of the Committee on Fastness to Light, the new standards devised by Mr. Christison were adopted as tentative; with request, granted by the Council, that $1000 be appropriated for their manufacture. It was hoped that these might be incorporated in the new CS-59 of the National Bureau of Standards. It was voted that the entire proposed CS-59 be accepted "in principle," with notation of objections in minor detail.

Mr. Young reported for the Committee on Wash Fastness Tests for Dyed or Printed Cotton, describing progress on development of an instrument for wet scrubbing tests. He reported also on the current status of accelerated weathering devices. It was suggested that the Association undertake work along these lines; but in view of plans already under way by other associations and the government for general investigation of the effects of age and weather, Mr. Barnard was asked first to keep the Committee informed on such plans, and our possible place in them. Thomas R. Smith, reporting for the Committee on Ageing of Sulfur Dyed Textiles, asked that the present committee be discharged; but Lt. Col. Steadman urged that the work be continued, as a part of the larger program on ageing and weathering.

For the Committee on Shrinkage of Fabrics Composed of Manufactured Fibers, Mr. Marks reported design of apparatus for drying samples under shrinkage test. It was voted that a committee on detergents be organized.

Werner Klaas of the Stehli Co. showed a mixed fabric of wool, cotton, viscose, bemberg, acetate and nylon filling, with fine nylon warp, designed at the request of the Research Committee for testing purposes. On recommendation of the Committee the Council appropriated $4000 to purchase this material for use of the Committee and resale.

Respectfully submitted,

HAROLD C. CHAPIN, *Secretary*.

Dues paid by
November 30th
have been acknowledged
with membership cards.

●

Lack of acknowledgment
should be reported
to the Secretary

MEETING, PIEDMONT SECTION

THE Piedmont Section held their Fall meeting at the Hotel Charlotte, Charlotte, North Carolina, on Friday night, November 5, 1943.

Due to the inability of securing hotel accommodations, it was impossible for us to have our meeting on Saturday afternoon and night as was our past custom. This was a night meeting combining a banquet and business session.

Colonel C. W. Woodward, Commanding Officer, Charlotte Quartermaster Depot, addressed the meeting on "The Textile Colorists' and the Quartermaster Corps' Clothing Problem Today."

After Colonel Woodward's address, Arthur R. Thompson, Jr., of the Ciba Company presented a thirty minute magic program.

The following officers were elected for the ensuing year:

Chairman—Henry B. Dixon, May, McEwen, Kaiser Company, Burlington, N. C.

Vice-Chairman—Sidney M. Cone, Proximity Print Works, Greensboro, N. C.

Secretary—Leland G. Atkins, Southern Dyestuff Corporation, Charlotte, N. C.

Treasurer—Wyss L. Barker, National Aniline Division, Allied Chemical & Dye Corporation, Charlotte, N. C.

Councilors—C. Norris Rabold, Union Bleachery, Greenville, S. C.

Dr. R. E. Rupp, Pacific Mills, Lyman, S. C.

Sectional Committee—H. H. Field, R. B. Macintyre, Thorwald Larson, W. A. Wolhar

All members and guests were registered, and it is interesting to note that we had 101 members and 61 non-members present.

Respectfully submitted.

LELAND G. ATKINS, *Secretary*.

The Textile Colorists' and the Quartermaster Corps'

CLOTHING PROBLEM TODAY*

COL. C. W. WOODWARD

Commanding Officer, Charlotte Quartermaster Corps.

TEXTILE chemistry is too specialized a field for me to attempt to tell you in your own technical language just how much the Quartermaster Corps owes, both to you as individuals, and to the plants that you represent, for your share in the vast task of successfully clothing our Army of more than seven million men. Capt. Traynham, of the Philadelphia Quartermaster Depot, and Capt. Pharr, of my own Inspection staff, both with excellent practical textile backgrounds, have constantly held to the two-fold policy that has kept the millions of yards of finished cloth moving smoothly into the Charlotte Quartermaster Depot. First, to maintain strict Army standards at all times. Secondly, to work as closely as possible with all of you individually, so as to obtain the Army standards of finishing, with, in cases of adjustment, as little loss to the manufacturer as possible, in time, money, or volume of production.

Official Photo, U. S. Army Air Force
Col. C. W. Woodward

In justice to your chairman, Mr. Rabold, who has been shipping many millions of yards of khaki and herringbone twill to us, I couldn't very well deny his request: "We're shipping it to you as fast as we can. Now we'd like to have you come down and visit with us at the November meeting, and tell us something of what is happening to it."

At the Charlotte Quartermaster Depot, two altogether different functions combine to operate smoothly together. First, that of a receiving, storage, and distribution agency for cotton uniform cloth for the Philadelphia Quartermaster Depot; cotton duck for the Jeffersonville Depot, and many other products which are purchased centrally by different Quartermaster installations from this area. Secondly, the Charlotte Depot is a typical Quartermaster Branch installation, issuing subsistence, clothing, equipage, and general supplies to the vast number of troops in training at camps throughout North and South Carolina. As a receiving station, most of our work is with civilian manufacturers on the supply lines. As a Quartermaster distributing agency, ours is the supply task of Quartermaster units with our armed forces all over the world. We must keep the fighting men clothed and supplied for whatever part of the world they might be stationed—be it Iceland or New Guinea, the Aleutians, or Italy.

Your association of textile chemists and colorists has been doing a splendid job of cooperation with the Army through your various research committees. Problems in impregnating uniforms against gas, testing on mildew-proofness and fire-weather-water resistance, have been of invaluable use to the Quartermaster Corps, in the global planning of uniforms for all kinds of local conditions.

In the Office of the Quartermaster General in Washington is assembled perhaps as unusual a group of experts as could be located anywhere in the world today. Men of science who have lived practically under all kinds of weather conditions from the tropical jungles to the arctic. Theirs is the task of working out, in the Quartermaster Research and Development Branch, the practical problems of clothing and supply, the logistics that play so important a part in every tactical advance against our enemies in any part of the world today and tomorrow. An advisory board of manufacturers and research men from private industry work closely with the Quartermaster Corps experts. They cooperate not only in the research problems, but in developing plans for immediate large-scale manufacture on the many new discoveries.

One of the most revolutionary changes has been that of shifting from white to OD in the Army underwear. Enemy flyers will hereafter not be able to spot American troops in concealed positions because of white underwear hung on the "wash line." Fast dyes now camouflage shorts, tops, socks and even handkerchiefs.

For use in the tropics, the new "jungle hammock" is perhaps the most unusual as well as practical innovation. In the South Pacific islands, "bugs and water" are as powerful natural enemies as the Jap himself. The hammock has many unusual features—a false extra bottom, that keeps the insects from attacking the sleeper through the thin hammock; loops underneath for hanging rifle, rations, and so on—safe from ground dampness and vermin; overall mosquito netting which zips shut from

*Presented at meeting, Piedmont Section, November 5, 1943.

inside. Rolled up into a small bundle, the hammock weighs only six pounds. I've not seen a man yet, examining the hammock for the first time, who doesn't exclaim at once on its excellent use during the war. Most of them are even more eager to get hold of one after the war for hunting and fishing in our own swamps and woods.

A new mildew-repellent has been developed whereby jungle equipment such as this hammock, as well as clothing and other items—tents, raincoats, netting, ropes, and leather, can be impregnated so as to protect them from humid weather. Remember that these advances in the protection of the Army's front-line equipment represent also a major advance in the future production of civilian goods.

More than 152 yards of wool and cotton cloth go to equip the American soldier for one year, when he's stationed within the continental United States. Multiply this by seven million, to get some idea of the fabulous amount of fabric we must produce today. Last month, the Quartermaster General, General Gregory, stated that it would be impossible to predict exactly the Army's future Quartermaster needs. Conditions are subject to abrupt changes in time of war. However, he did say that demands for cottons will continue to be fairly consistent, and that there will be continued requirements of 8.2 uniform twill, herringbone twill and practically all cotton fabrics.

Before assignment to the Quartermaster Corps in 1935, I was for 18 years with the Infantry. I can state my personal enthusiasm over some of the most practical new changes and advances in equipment and clothing for the fighting man—the new lighter raincoat waterproofed with plastic resins instead of rubber; the use of the same synthetic resins to make the standard "shelter-half" truly water-proof, with a flooring as well; the new "flotation bladder" made of synthetic rubber, whereby the infantryman can cross a stream in a hurry when the engineer isn't there to build a bridge; and the light, roomy coverall of the jungle fighter. All of these are giant steps forward in a sensible recognition that the better clothed and protected the fighting man, the better fighter he will be. For modern, mobile warfare, the Quartermaster Corps is handling its share of the task—with lighter, more effective garments and equipment that does the job better than ever before.

If this is a Quartermaster's war, as perhaps every war in history has been a war of supply, then we are only able to wage it victoriously because of the self-sacrificing and constantly cooperative help of men like yourselves on the supply line. For the fighting man in uniform today, and for the Quartermaster Corps which must supply him, I want to thank you men of the textile chemical field for your noble share in our supply task today.

ONE HUNDRED AND FORTY-THIRD COUNCIL MEETING

THE Council held its one hundred and forty-third meeting at the Downtown Athletic Club in New York City on Friday afternoon, October 22, 1943. Present were President Thomas R. Smith, presiding; Charles A. Seibert, Vice-President; William R. Moorhouse, Treasurer; Louis A. Olney, Chairman of the Research Committee; William H. Cady, Carl Z. Draves, Elvin H. Killheffer and P. J. Wood, Past Presidents; John N. Dalton and Harry M. Hartnett representing Northern New England; Allison R. Fletcher and Ben Verity representing Rhode Island; Kenneth H. Barnard, J. Robert Bonnar, J. Ernest Meili and George A. Moran representing New York; John F. McCoy representing Philadelphia; A. Henry Gaede and C. Norris Rabold representing Piedmont; Bertil A. Ryberg, Associate Research Director; and Harold C. Chapin, Secretary. Also present were William D. Appel, Emmett Driscoll, Henry F. Herrmann, A. P. Howes, Patrick J. Kennedy, Leonard S. Little and Arthur R. Thompson, Jr.

The Secretary's report of the 142nd Council meeting and financial report of Oct. 15, and the Treasurer's report of Oct. 20, were accepted. The offer of the Howes Publishing Co. to finance the annual award of a Louis A. Olney medal was accepted with thanks, and conditions of award drawn up by Dr. Draves and Mr. Howes were adopted. Through W. R. Moorhouse, Chairman, the committee appointed to consider establishment of an endowment fund recommended that the earlier maturing bonds, up to half the total maturity value of the Federal bonds now in the Association treasury, be designated a "permanent fund," with income to be used only after maturity of the bonds named. It was so voted.

The Chairman of the Research Committee reported an offer from the Crown Tested Department of the American Viscose Corporation to finance for two years at the Lowell Textile Institute a student working for a Master of Arts degree with thesis on problem to be selected by the Research Committee of the Association. This offer was accepted with thanks, and appropriations for salary and tuition made therefrom. C. Norris Rabold, Chairman of the Piedmont Section, presented a contribution of $121.55 from the Section to the Research Fund.

The Research Committee was authorized to employ additional stenographic and technical assistance in consideration of an offer from the Howes Publishing Co. to pay half its cost. Mr. Ryberg reported on his activities and his salary from January 1, 1944, was appropriated. Mr. Herrmann, reporting for the committees on publicity and corporate memberships, was authorized to send out another letter stating our neutrality on the question of compulsory labeling, but the necessity of carefully designed tests such as our own if labeling is to receive fair enforce-

SECRETARY'S FINANCIAL REPORT—OCTOBER 15, 1943

Received and Transmitted to Treasurer	*Applications*	*Dues, Regular and Reinstate.*	*Dues, Corporate and Sustaining*	*Miscellaneous*	*Totals*
August 1, 1942, to June 12, 1943	$1,462.50	$12,866.75	$6,322.50	$1,748.07	$22,399.82
June 12 to July 31, 1943	140.00	107.50	25.00	294.45*	566.95
Total for fiscal year ended July 31, 1943	1,602.50	12,974.25	6,347.50	2,042.52	22,966.77
August 1 to October 15, 1943	270.00	670.00	660.00	322.15**	1,922.15

Miscellaneous Items

Year Books	$105.50*	$74.00**	Knitted tubing	6.50	23.20
Reporters	1.00	13.80	Moth cloth	13.30	32.70
Reprints	1.00		Water test apparatus	4.00	82.50
Buttons	9.00	1.50	Gas fading blue prints	1.00	1.00
Crockmeter profits	23.15		Launderometer royalties	50.00	
Crock cloth	53.00	63.45		$294.45	$322.15
Dyed standards	27.00	30.00			

ment. An appropriation of $4,000 was made for purchase from the Stehli Co. of a specially designed fabric with strips of wool, cotton, viscose, Bemberg, acetate and nylon for testing purposes and resale. $1,000 was appropriated for manufacture of the light fastness standards devised by Mr. Christison and adopted by the Research Committee as tentative standards. On vote of the Council the Chairman of the Research Committee appointed L. S. Little, W. D. Appel, J. R. Bonnar, T. R. Smith and P. J. Wood a committee to report to the Council on research policy and program.

The next meeting was called for Friday, Jan. 21, in New York, with Research Committee meeting to follow on Saturday. Elected to Corporate membership were Bernard Color and Chemical Corp., Burkart-Schier Chemical Co., Central Franklin Process Co., Cranston Print Works Co., Crystal Springs Bleachery, Davenport Hosiery Mills, Edgewater Dyeing and Finishing Co., Fabric Research Laboratories, Glasgo Finishing Co., Globe Knitting Works, Holeproof Hosiery Co., Kearny Manufacturing Co., Lewis Knitting Co., Peerless Woolen Mills, Richmond Hosiery Mills, Rit Products Corp., Signal Knitting Mills, Standard Coosa Thatcher Co., R. R. Street and Co., Tubize Chatillon Corp., Unique Knitting Co., and United States Finishing Co. Each of the following was elected to the class of membership specified, as of thirty days from publication of application, provided no objection be received meanwhile by the Secretary:

Senior

F. P. Ambro
R. A. Austin
K. W. Bayha
C. K. Black
R. Bourrioux
T. J. Bowes
I. W. Gardner
T. Gibson
S. Glasberg
B. C. Grant
C. Greene
D. L. Griswold
J. V. Moore
E. C. Murphy
F. W. Noechel
L. M. O'Connell
P. Otto, Jr.
J. E. Paulig
G. K. Byers
J. A. Crumley
M. A. E. Delys
D. J. Dineen
J. M. Durand
T. J. Dwyer
R. Eckert
F. H. Emery
J. H. Fasal
M. R. Fox
P. R. French
A. L. Hanford, Jr.
S. B. Horowitz
T. N. Jago
F. P. Jankowski
R. H. Kienle
E. M. Ladino
J. Lang
E. R. Laughlin
J. R. Magee, Jr.
A. O. Martone
W. M. Mitchell
K. W. Pulliam
R. J. Quigg, Jr.
C. A. Reddic, Jr.
B. C. Rioux
W. A. Risk
W. F. Smith
W. Stump
T. F. Sullivan
W. B. Thomas
A. A. Tourin
W. S. Woodson, Jr.

Junior

R. A. Burns
H. R. Dinges, Jr.
G. F. Goldstein
L. T. Hall
P. B. Hendricks, Jr.
H. A. Jasmine
I. B. Krieger
W. R. Kuenzel
T. P. Moore, Jr.
W. N. Pardey
H. B. Smith
J. R. Whisenant
S. H. Wilson

Associate

J. H. Abt
D. M. Crosland
J. Dickson
F. Kairys
A. K. Kuzdal
M. Lane
H. C. Meltzer
A. H. Menko
E. F. Ramsbottom
L. B. Rand
D. C. Waters

Student

J. A. Colburn
E. J. Higgins
J. J. Miranowicz
J. T. Moy
J. H. Rosenbaum
A. W. Silverman
G. Sumar
D. T. Tweedy

Transferred from other classifications to Senior membership were L. W. Craft, F. P. Greenspan, D. H. Gunther, H. L. Young, and S. V. Vaniotis.

Respectfully submitted,

HAROLD C. CHAPIN, *Secretary*.

MILDEWPROOFING SUBCOMMITTEE MEETING

October 22, 1943, New York City

THE meeting was largely devoted to making detailed plans for the series of cooperative A.A.T.C.C. tests. It will be recalled that at the April meeting, a subcommittee was named to arrange for making up several treated fabrics for this purpose. J. D. Dean succeeded Mr. Wells as chairman of this subcommittee, following Mr. Wells' entering active military service.

Sixteen treated fabrics were prepared for these tests and, under code number, are now ready for distribution. At the October 22 meeting, a list of laboratories that wished to participate in these cooperative tests was made. Detailed plans were developed as to tests that should be conducted, and agreements were reached as to the uniform manner in which each test is to be conducted.

The number of laboratories that expressed an interest in cooperating in these tests and in contributing to standardizing testing procedure was gratifying. The need for correlating testing procedure with actual tropical exposures was discussed and the subcommittee on cooperative tests and standard samples agreed to work out plans for obtaining the materials needed and for making appropriate exposures and tests:

A list of those participating in the meeting follows:

J. D. Dean—SRRL-BAIC, New Orleans, La.

J. Leutritz, Jr.—Bell Telephone Labs., Murray Hill, N. J.

Lt. J. E. Goodavage, Philadelphia QM. Depot, 2800 S. 20th St., Philadelphia, Pa.

G. F. Shoemaker—Ciba Co., Inc., Station C, New York City.

F. J. Meyer—Dow Chemical Co., Midland, Mich.

Lt. Col. Frank M. Steadman, Phila. QM. Depot, 2800 S. 20th St., Philadelphia, Pa.

O. B. Hager—Rohm & Haas, Philadelphia, Pa.

A. R. Thompson, Jr.—Ciba Co., Inc., Charlotte, N. C.

Elmer C. Bertolet—Jeff. QM. Depot, Jeffersonville, Ind.

Glenn A. Greathouse—Bureau of Plant Industry, Soil and Agric. Engineering USDA, Plant Industry Station, Beltsville, Md.

Edward Abrams—Nat'l Bureau of Standards, Washington, D. C.

R. E. Horsey—Givaudan-Delawanna, Inc., 330 W. 42nd St., New York City.

H. C. Borghetty—General Dyestuff Corp., 435 Hudson St., New York City.

W. N. Pardy—General Dyestuff Corp., 435 Hudson St., New York City.

Margaret S. Furry—Bureau of Human Nutrition and Home Economics, USDA, Research Center, Beltsville, Md.

Francis Tripp—New Bedford Textile School, New Bedford, Mass.

H. D. Barker—Bureau of Plant Industry, Soils, and Agric. Engineering USDA, Plant Industry Sta., Beltsville, Md.

Capt. Harry Clapham—Office of QM. General, Washington, D. C.

W. M. Lee—Office of QM. General, Washington, D. C.

H. D. BARKER, *Chairman*

REPORT OF THE COMMITTEE ON FASTNESS TO LIGHT

WM. D. APPEL, *Chairman*

WORK on a new series of standards for fastness to light was concluded on October 23, and the preparation of substantial quantities of the new standards for sale was authorized by the Research Committee.

These standards are described in the paper "New Proposed Standards for Light Fastness" by Mr. Hugh Christison, published in the last issue of the AMERICAN DYESTUFF REPORTER. They represent a distinct advance over previous standards in uniformity of color, of fading, and of spacing with respect to color fastness; resistance to water and to washing, and reproducibility. They represent steps of fastness corresponding to 10, 20, 40, 80 and 160 hours of exposure in the F.D.A. Fade-Ometer on the basis of exposure in a number of lamps and the collected judgment of the members of the committee, supplemented by spectrophotometric measurements.

The committee is indebted to Mr. Hugh Christison, Chief Chemist of the Arlington Mills, for presenting the idea on which these standards are based, and for the preparation of the numerous trial dyeings which had to be studied before the final selection of standards could be made.

The committee would like to know how satisfactory the standards prove to be in use, and particularly to have suggestions for their future improvement.

Work on methods for calibrating fading lamps and standardizing their operation is continuing in the committee.

MEETING, RHODE ISLAND SECTION

THE October meeting of the Rhode Island Section was held on the 29th at the hall of the Providence Engineering Society with an attendance of 150 men and women.

The speaker was A. M. Romero, Export Manager of the Standard Mill Supply Co., of Pawtucket. His subject, "The Textile Industry in Latin America," included a brief account of the geography, history and civilization in the twenty-one countries south of us; and a general description of the textile industry there touching on its present and future status, its influence on their standard of living, and of trade with the United States. To the listeners, it was almost as if an unknown part of the world had been revealed to them and this feeling was

greatly enhanced by the five films of motion pictures (some colored, all with sound) showing beautiful scenery and cities, vast lands with uncountable resources, and everywhere, fascinating people. The films, with the machinery and operator necessary for their showing, were loaned through the courtesy of the World Affairs Council of Rhode Island, of which Mr. Romero is a member.

The instructive and entertaining evening did not close until almost eleven o'clock, the general feeling being that it was one of our best meetings.

Respectfully submitted,

ROBERT W. JOERGER, *Secretary*

• CALENDAR • OF COMING EVENTS

Meeting, Philadelphia Section, Hotel Philadelphian, Philadelphia, Pa., December 10, 1943.

Speaker: Eric T. Laurin, Director of Textile Service, Calgon, Inc. "Calgon in the Textile Mill," supplemented by colored motion pictures.

Meeting, Council, New York City, January 21, 1944.

Meeting, Research Committee, New York City, January 22, 1944.

Meeting, Rhode Island Section, January 28, 1944.

Meeting, New York Section, February 4, 1944.

NOTE: Date of April meeting has been changed from the 7th to the 21st.

MEMBERSHIP

APPLICATION BLANKS

for individual

and corporate

MEMBERSHIP

may be obtained

from the secretary

Dr. H. C. CHAPIN

Lowell Textile Institute, Lowell, Mass.

UNEMPLOYMENT REGISTER

Members of this association, who are without employment, should forward a statement as to their qualifications and experience. This information will subsequently appear on these pages with an identifying key number. Employers are also requested to file with the American Dyestuff Reporter any vacancies which may occur in their business.

NOTICE TO EMPLOYERS

Personal Histories and Employment Records of the following applicants are on file at the office of the American Dyestuff Reporter. Prospective employers may examine them without obligation.

Key: A—Laboratory and research; B—Dyeing or printing; C—Finishing; D—Sales; E—Instruction; F—Executive.

A-2

Education—Graduate, Lowell Textile Institute, B.T.C., 1933.
Experience—Experienced as textile chemist, chemist-spotter, agricultural chemist and U. S. Army inspector on cotton, rayon, woolens and worsteds. Seeks research or control position with future. New England preferred.
Age 34; married; references.

A-3

Education—B.S. in chemistry, Lehigh University.
Experience—Experimental engineer and analytical chemist, 8 mos.; assistant superintendent of silk corporation, assisted in planning and directing production, in charge of laboratory, technical work, personnel, purchasing, etc., 2 years; inspector of ordnance material, to the present. Seeks position as chemical engineer or chemist.
Age 26; single; references.

A-B-C-F-3

Education—High school and full apprenticeship.
Experience—Practical Dyer and finisher. Long experience on specialties for men's wear trouser trade in cottons, cotton and rayon mixtures and cotton and Celanese. Is disposing of interests in progressive finishing plant and seeks position as manager, assistant manager or technical advisor. Thoroughly understands requirements of Quartermaster, especially on herringbone constructions.

C-1

Experience—Experienced as assistant finisher, finisher and superintendent of finishing since 1923. Experience on automobile cloth, boucle overcoatings, high grade men's wear worsted, low grade woolens, medium grade plaid-back overcoatings, fleece finish overcoatings. Bolivias, kerseys, medium-grade men's piece dye suitings, uniform cloth, flannels, ladies' dress goods and coatings, government serge and elastique fabrics, marine wool, flannel shirtings.
Age 37; married, 3 children; references.

C-2

Education—Completed course in textile engineering and chemistry except for final half-year at Clemson College.
Experience—11 years of experience in finishing operations, including 8 years as overseer. Experienced on all types of cotton cloths. Experienced on pure finishes, backfilling, Sanforizing, pre-shrinking, and application of several types of water repellent finishes. Seeks position as overseer of finishing department.
Age 32; married; references.

NOTE:

Persons who have obtained employment should notify the AMERICAN DYESTUFF REPORTER at once

TRADE NOTES • NEW PRODUCTS

• HERCULES EXHIBIT

Hercules Powder Company's exhibit at the Exposition of Chemical Industries in Madison Square Garden, New York City, December 6-11, will portray new industrial uses for chemicals and the company's products.

The exibit will include a colored map, in low relief, of "Hercules Land," showing different chemical products the company manufactures and sections of the chemical world each comes from.

Synchronized with the colored map will be turntables in four windows. Each turntable will be divided into three sections, or stages, and will depict typical Hercules chemicals from the company's Virginia Cellulose, Synthetics, Naval Stores, Cellulose Products, and Paper Makers Chemical Departments.

Products to be shown include: ethyl cellulose plastics; cellulose acetate hard plastics and protective films; chlorinated paraffin for protective coatings; lacquer bases for solid, sprayable finishes; Polypale resin, noncrystallizing resin; Thanite, insecticide base; terpene chemicals, light-colored solvents and thinners; rubber reclaiming and rubber solvent chemicals; Vinsol resin, asphalt modifier; Pentalyn resins, for rapid-drying, hard-finish varnishes; chemical cotton; and Dresinate, a resinate for industrial cleaners and soluble oils.

• PERKIN MEDAL

The American Section of the Society of Chemical Industry announced recently the election of Gaston F. DuBois, vice-president of Monsanto Chemical Company, St. Louis, to receive the Perkin Medal in recognition of his outstanding work in applied chemistry. Presentation of the medal will be made at a dinner meeting of the Society at Hotel Commodore in New York City on Friday, January 7.

An informal reception for the medalist will be held immediately before the presentation dinner January 7 at Hotel Commodore in New York City. Dr. Foster Dee Snell of Brooklyn, chairman of the American Section of the Society of Chemical Industry, will preside at the dinner. The Perkin Medal will be presented to DuBois by Prof. Marston T. Bogert of Columbia University, senior past president of the Society. Francis J. Curtis, a vice-president of Monsanto Chemical Company, will present a brief paper on the personal side of DuBois's life, and Dr. Charles Allen Thomas, director of Monsanto's Central Research Department, will tell of the medalist's professional accomplishments.

• APPOINTED PORTLAND MANAGER

Appointment of Milton J. Maguire as resident manager of the company's Portland, Oregon office, was announced recently by Hercules Powder Company.

Mr. Maguire, who succeeds the late A. C. Duncan as head of the Paper Makers Chemical Department office, has been assistant manager at the company's PMC plant at Holyoke, Mass., since 1939. Prior to that, he was manager at the department's Albany, N. Y., office.

He will be aided by J. V. B. Cox as assistant manager.

• CALCO ADVERTISING MANAGER

The Calco Chemical Division, American Cyanimid Company has announced the promotion of Robert Collyer to the post of Advertising Manager. In his new position Mr. Collyer will supervise the advertising and promotion activities of the Division.

Robert Collyer

Before joining the Calco organization, Mr. Collyer was active in direct mail advertising and in the printing trade in New York.

A member of a family that has been engaged in railroading for many years, he followed in the tradition and started work with the Delaware, Lackawanna and Western in 1920 as a stevedore. He continued in the traffic field until 1927, when he resigned as district freight agent for the Pennsylvania Railroad to enter the printing business.

Mr. Collyer became identified with advertising when he served as agent for the Chesapeake & Ohio Railroad while that road was under the Van Sweringen management. In that post he handled the promotion campaign conducted to introduce its new fast train service between the East and the Middle West.

• APPOINTED LICENSEES

The American Viscose Corporation has appointed Cameo Fabrics and Cantor Greenspan Co., Inc., both of New York, N. Y., as converter licensees under the "Crown" Tested Plan under which fabrics containing the company's "Crown" rayon are laboratory tested for service qualities.

Beaunit Mills, Inc., Lowell, N. C., the Hampton Company, East Hampton, Mass., the Kenyon Finishing Co., Lawrence, Mass., Sanco Piece Dye Works, Inc., Phillipsburg, N. J., Stonecutter Mills Co., Inc., Spindale, N. C., and Brewster Finishing Co., Inc., Paterson, N. J., have been appointed finisher licensees, each of these companies being fully qualified to dye and finish rayon fabrics in accordance with the standards established under the "Crown" Tested Plan.

• APPOINTED PLANT CHEMIST

Harley J. Morris has been appointed chief plant chemist at the Meadville, Pa., acetate rayon producing plant of the American Viscose Corporation. Until this appointment was made Mr. Morris has held the position of assistant plant chemist under the chief plant chemist, F. William Koster, who was also director of acetate research. As was announced recently, Mr. Koster has been made assistant director of chemical research for the corporation and has been transferred to the company's chemical research laboratory at Marcus Hook, Pa.

William K. Mohney, who for three years has been associated with the research group at the Meadville Plant, has been appointed assistant plant chemist.

• SILVER ANNIVERSARY, A.S.A.

Clifton E. Mack, Director of Procurement, United States Treasury Department, will speak at the annual luncheon meeting of the American Standards Association to be held Friday, December 10th at the Hotel Roosevelt. His address will deal with using standards to bring government requirements more nearly into line as a part of the American industrial system. Mr. Mack is in charge of all government lend-lease purchasing.

This meeting marks the twenty-fifth anniversary of the founding of the American Standards Association. Started as a result of the production problems of the last war, the Association has in the past year completed more than 40 emergency jobs for the armed services and industry, and is engaged on many others.

R. E. Zimmerman, president of the organization, will give a brief address on post war changes and developments.

H. S. Osborne, Chairman of the Standards Council will report on the year's work.

Because of the special nature of this occasion, in commemoration of its twenty-five years of service to industry and government, the ASA extends a cordial invitation to all who wish to attend, whether they are members of the ASA or not. Further information about the meeting, may be obtained from the American Standards Association, 29 West 39th Street, New York 18, N. Y.

Meetings of the Board of Directors and the Standards Council will be held in connection with the Annual Meeting.

• GRANTED LEAVE

Charles Hendrixson, Jr., manufacturing superintendent of the Nitro, W. Va., plant of the American Viscose Corporation, has been granted military leave to commence December 15, 1943.

John E. Spalding, assistant to Dr. Dan B. Wicker, in charge of the company's "Fibro" rayon staple fiber pilot plant at Nitro, has been appointed acting manufacturing superintendent of the plant and will assume Mr. Hendrixson's duties for the period of his military leave.

• "ARIDEX" TREATMENT

The Army is now demanding that many "G. I." garments be treated, each time they are washed or cleaned, with a chemical which makes them shed water and resist spots and stains.

It is stated that improved chemical water repellents, developed by E. I. du Pont de Nemours & Company, are being used in record quantities to protect numerous Army garments made of wool and cotton.

These clothes are said to be made water and stain resistant simply by dipping them in a solution of "Aridex" water repellent after washing or dry cleaning. It is stated that the chemical cannot be seen or felt on the fabric, has no odor, and does not impair the appearance or draping qualities of the garment.

Despite increased Army demands for these repellents, there are ample quantities for civilians. Their use is expected to expand after the war, for treating garments is rapidly becoming a common operation for dry cleaners and laundries.

In addition to raincoats and jackets, overcoats, topcoats, evening gowns, cotton dresses and men's warm weather suits, nurses' uniforms, commercial linens, shirt collars, and children's clothes are among the wide variety of civilian fabrics treated to make them water repellent and stain and spot resistant.

Photo by Harcourt-Harris

Left to right—Commander S. J. Singer, Harry Blickman, Manuel Blickman, Saul Blickman and Capt. Lyle M. Richardson.

• "E" AWARD TO BLICKMAN

The War and Navy Departments of the United States of America have presented the joint Army and Navy Production Award for outstanding performance on war work to S. Blickman, Inc. The Army-Navy "E" award ceremony was held Friday, October 22nd at 4 P.M. at the plant grounds, Gregory Avenue, Weehawken, N. J. Commander S. J. Singer presented the award for the U. S. Navy. Presentation of the "E" pins was made by Captain Lyle M. Richardson of the U. S. Army. Bennett Chapple of the American Rolling Mill Co., known to radio audiences as the "Ironmaster" was master of ceremonies. The acceptance speeches were made by Saul Blickman, president of the organization and Owen T. Webber, on behalf of the employees.

Among other products, S. Blickman, Inc. manufactures stainless steel textile dyeing and finishing equipment.

• ANNUAL MEETING, DCAT

The Drug, Chemical and Allied Trades Section of the New York Board of Trade held its 53rd Annual Meeting and Election at the Drug and Chemical Club, 85 John Street, November 16, with over 100 executives present. Victor E. Williams, Director of Sales of Monsanto Chemical Co., presided at the meeting featured by the address of Mr. Julius Henry Cohen, who spoke on the subject of Government War Contract Cancellations. Mr. Cohen drew from his first-hand experience with the subject of cancellations after the last war and his background as general Counsel for many years for the New York State Chamber of Commerce and Port of New York Authority to present the problems facing Contractors now and in the post-war period.

The various officers of the Section including the Chairman, Robert B. Magnus, Treasurer, Carl M. Anderson, Counsel, Helen L. Booth, Acting Secretary, and Gaines H. Gough, Washington Representative, reported on the work of the Section during the past year. Harold M. Altshul, Chairman of the Membership Committee, reported a total of 52 new members for the year stating that the roster new includes some 424 member firms—an all time high.

Mr. John J. Toohy, Manager of Distribution for E. R. Squibb & Sons, was elected the Section's representative to serve on the Board of Directors of the New York Board of Trade for the coming year.

With the approval of the report of the Nominating Committee, presented by its Chairman, Philip M. Dinkins, the following individuals were elected to serve on the Executive Committee for the coming year. At the first meeting of this Committee, which will be held shortly, the Section's officers for next year will be elected.

Harold M. Altshul, Ketchum & Company, Inc.; Carl M. Anderson, Merck & Co. Inc.; William H. Berg, Winthrop Chemical Co.; Carle M. Bigelow, Calco Chemical Div., American Cyanimid Co.; Hugh S. Crosson, McKesson & Robbins, Inc.; James DeCesare, White Laboratories, Inc.; Grover C. Hollings, Eli Lilly & Company; R. J. Ingram, Bristol Myers Company; Elvin H. Killheffer, E. I. du Pont de Nemours & Co., Inc.; Arthur J. Kinsman, Purepac Corporation; Charles L. Lightfoot, Anchor Hocking Glass Corp.;

Robert B. Magnus, Magnus, Mabee & Reynard, Inc.; Guy L. Marsters, the Norwich Pharmacal Company; Paul Miller, International Cellucotton Products Co.; Harold D. Pomeroy, G. S. Stodard & Co., Inc.; Robert J. Quinn, The Mathieson Alkali Works; J. P. Remensnyder, Heyden Chemical Corporation; Lloyd I. Volckening, The Ivers-Lee Company; William J. Weed, Niagara Alkali Co.; and E. T. T. Williams, Becton, Dickinson & Co.

• ANNUAL MEETING, T.R.I.

A picture of the role of research in the post-war world was drawn for the members of the Textile Research Institute, Inc., at their annual meeting at the Hotel Roosevelt, New York, Nov. 18, by Dr. Hugh S. Taylor, of Princeton University, principal speaker at the luncheon. As a member of the Scientific Advisory Committee of the Textile Foundation, with which the Institute is allied, Dr. Taylor has had on opportunity to study the problems of the textile industry, and consequently his message was of particular import.

At the business meeting which preceded the luncheon, Fessenden S. Blanchard was re-elected president and executive secretary. Douglas G. Woolf, who recently joined the staff of the Institute as director of information and economic research, was elected first vice-president. Dr. Robert E. Rose and Dr. Harold DeWitt Smith were re-elected as vice-presidents, and Edward T. Pickard was re-elected treasurer. Robert R. West was elected a director of the Institute. The other directors were re-elected.

The post-war theme was dominant in the two technical sessions of the meeting. The morning session, conducted by Giles E. Hopkins, director of applied research for the Institute, was devoted to an outline of the projects which are now in the works, or projected. Speakers included Malcolm E. Campbell, Dean of the Textile School at North Carolina State College; Lt. Col. Frank M. Steadman, of Philadelphia Quartermaster Depot; Rinaldo Lukens, of Continental Mills, A. G. Ashcroft, of Alexander Smith & Sons Carpet Co., and Werner von Bergen, of Forstmann Woolen Co. The afternoon session, conducted by Dr. Milton Harris, director of research for the Textile Foundation, summarized the post-war implications of the vast research which has been conducted on fabrics for military uses. Speakers included H. F. Schiefer, of the Bureau of Standards, and L. Fourt and A. Sookne, both of the staff of the Textile Foundation.

Committee reports presented at the business session included those presented by W. D. Appel, chairman of the Technical Research Committee; Robert R. West, chairman of the Economic Research Committee; and Douglas G. Woolf, chairman of the Publications and Publicity Committee.

The annual report of the president, presented by Mr. Blanchard, highlighted the following developments since the last annual meeting: (1) an increase in company memberships from 96 to 126, and in individual memberships from 232 to 281; (2) the appointment of Douglas G. Woolf, formerly editor of *Textile World*, as director of information and economic research, of Giles E. Hopkins as director of applied research and of Dr. Milton Harris as director of fundamental research for the Institute as well as for the Textile Foundation; (3) the launching of a research project to increase production of cotton carding, and the projection of other applied research programs; (4) the publication of several research reports; (5) the formulation of an economic research program under the chairmanship of Robert R. West, president of Esmond Mills; (6) the preparation of a research report on "The Textile Industries of China and Japan," prepared by Mr. Blanchard.

Plans for the future of the Institute, as outlined in the president's report, include: (1) coverage of all branches of the textile industry, and all fibers; (2) location of its laboratories near New York City; (3) development of a five-point program covering fundamental research, applied research, a graduate school in affiliation with a leading university, economic research, and information service, etc.; (4) raising of a research fund of $300,000 a year for five years or $1,500,000, plus a capital fund of $500,000. In connection with the latter plan, it was pointed out that Albert L. Scott, president of Lockwood Greene Engineers, Inc., has been unanimously requested by the directors to act as general chairman of a Research Fund Committee.

The directors of the Textile Research Institute, Inc., include: W. D. Appel, John Bancroft, Jr., Arthur Besse, Fessenden S. Blanchard, F. Bonnet, C. F. Broughton, Fuller E. Callaway, Jr., H. M. Chase, Earl Constantine, Alban Eavenson, Russell T. Fisher, Ephraim Freedman, H. Grandage, M. Earl Heard, Marland C. Hobbs, Charles J. Huber, J. Spencer Love, W. M. McLaurine, Louis A. Olney, Edward T. Pickard, D. H. Powers, Robert E. Rose, Edward R. Schwarz, Albert L. Scott, Harold DeWitt Smith, Charles A. Sweet, A. M. Tenney, Albert C. Walker, Robert R. West, and Douglas G. Woolf.

• JOINS NUODEX

Harry M. Howard has become associated with Nuodex Products Co., Inc., Elizabeth, N. J. and will represent them in Washington.

After graduating from V. P. I., he went with the Egyptian Lacquer Company in Kearny, New Jersey, where he headed up synthetic operations. While employed there, he studied pigment dispersions in all sorts of vehicles on all types of equipment with particular emphasis on the efficiency of wetting agents.

He left Egyptian Lacquer Company to become associated with Valentine and Company in Kearny, New Jersey, assisting Dr. J. W. Kimball, Chief Chemist, particularly in dispersion problems.

Mr. Howard left Valentine and Company to become Chief Chemist at Beckwith-Chandler Company in Newark, New Jersey, leaving in June, 1941, to join the Chemicals Division of the War Production Board in Washington, D. C. He has been Chief of the Aromatic Petroleum Solvents Unit, and Administrator of G. P. O. M-142, pertaining to naphthenic acid and napthenates, and G. P. O. M-150, pertaining to aromatic petroleum solvents and xylol.

• ADDRESS ON SURFACE ACTIVE AGENTS

Dr. Donald Price, Technical Director, Organic Research Laboratory, National Oil Products Co., Harrison, N. J., addressed the Western Maryland Section of the American Chemical Society at the Algonquin Hotel in Cumberland, Maryland, on Friday evening, November 12, on the subject "The Chemistry of Surface Active Agents."

Dr. Price took up the history and general characteristics of surface active compounds which have become so important in the textile and other industries during recent years. He then discussed the preparation and chemical constitution of the commercial surface active agents.

Some fifty members and guests attended the meeting. Dr. R. W. Work, of the Celanese Corporation of America, Chairman of the Section, presided.

• AWARD TO CELANESE

Celanese Corporation of America, in association with other chemical, rubber and petroleum companies, will receive the chemical engineering profession's 1943 Award for Chemical Achievement for its significant contributions to the synthetic rubber industry, it was disclosed recently.

This sixth biennial award will be made on December 8th at the Waldorf-Astoria Hotel at a dinner sponsored by the magazine Chemical and Metallurgical Engineering. The recognition accorded Celanese Corporation of America is for its singular contributions in the development of the butadiene process. Butadiene is the main

ingredient of Buna-S rubber.

George Schneider, vice-president, will receive the award for Celanese Corporation.

• NEW PLANT FOR SOYBEANS

A new textile fiber made from soybeans will shortly be produced on a commercial basis to be marketed at prices competitive with wool, according to an announcement made in Cincinnati recently by H. R. Drackett, president of the Drackett Company. This new product is said to be elastic, resilient and moisture absorbent and is also the first non-animal protein fiber. It is now being used experimentally in such products as hats, underwear, blankets and other textiles. It can be blended with both wool and cotton.

This soybean fiber was first developed in 1938 by the Ford Motor Company. Just recently that organization's soybean processes, equipment and personnel were acquired by the Drackett Company which for several years past has carried on its own extensive scientific research on soybeans.

Mr. Drackett stated that scientific study of soybean fiber and development and improvement of the manufacturing processes have converted this erstwhile laboratory curiosity into a commercially practicable new fiber which has a wide variety of potential uses in the textile field. It is claimed to be as warm as wool and its cost will be low enough to permit it to compete with various other fibers. It has never been produced on a commercial basis.

The new soybean fiber plant is expected to be placed in commercial operation early in December.

• ESTABLISHES SAFETY RECORD

The Roanoke, Va. plant of the American Viscose Corporation has established a new corporation safety record of 4,471,000 man-hours or 237 days worked without a lost-time accident, it was announced recently. The former corporation record, made by the Roanoke plant in 1942, was 3,209,000 man-hours or 161 days worked without a lost-time accident.

In a report distributed to the plant's personnel, LeRoy H. Smith, manager, congratulated the employees as follows: "There is now a challenge before us to try and exceed our present record of 4,471,000 hours. After all, we owe it to our families and to ourselves at all times to be careful, observe safety rules, wear safety shoes and clothing, and to report all accidents to the foreman.

"We have done a fine job in establishing such a record. The management wishes to express congratulations and its thanks for the part you played in making it possible."

• NEW PORTABLE MIXER

A new belt type portable industrial mixer, in which the motor hangs outside the tank and out of the path of destructive mixing fumes, is the development of United Electric Motor Co. Designed so that the balanced hanger carries the weight of the unit below the center of gravity, the United Mixer needs no tension on the clamp to hold the mixer in place.

Either AC or DC low cost motors may be used, and precise best-mixing speeds are said to be obtained by simple pulley changes. Belts and pulleys in the United Mixer are V-type and are readily interchangeable for low or high speed mixing. In plants where more than one mixing job is to be done, the United Mixer's adaptability makes it especially valuable, doing away with the necessity of extra equipment for each new job.

A descriptive bulletin is available from United Electric Motor Co., 178 Centre Street, New York.

• SALVAGE MANUAL FOR INDUSTRY

The first comprehensive practical manual on industrial salvage ever prepared has just been published by the Technical Service Section, Industrial Salvage Branch, Salvage Division, War Production Board, and is now being distributed to industry.

The new book, entitled "Salvage Manual for Industry," contains 245 pages of systematically organized and classified information and data—most of it of a "how-to-do-it" nature — on industrial salvage practice in all its ramifications. Material is presented in 26 chapters, grouped into 6 major sections. There are 2 chapters on organizing and planning the salvage department; 3 on the administrative factors; 12 on methods of handling (finding, identifying, segregating, collecting, reclaiming, storing, selling, etc.) metal scrap; 3 on non-metallic waste; 7 case histories demonstrating exemplary practice; a 17-page compilation of practical hints for handling specific waste materials; and a 9-page index.

Copies may be obtained at 50c each from the Government Printing Office, Washington, D. C.

• APPOINTED EDITOR

Jesse W. Stribling, of Atlanta, has been named editor of "Cotton," published by W. R. C. Smith Publishing Co., Atlanta, and will assume his new duties on January 1. He succeeds Robert W. Philip, who on that date will become president and executive director of Callaway Institute, Inc., LaGrande, Ga.

Mr. Stribling, a native of Seneca, S. C., has since 1925 been field engineer of the Universal Winding Company, of Providence, R. I., with headquarters in Atlanta. He was graduated from Clemson College in 1916, with the degree of Bachelor of Science in Textile Engineering. His first work in the textile industry was with the Saco-Lowell Shops, in Lowell, Mass., which he left to enter military service in the first World War as lieutenant in field artillery. He served two years overseas, receiving the Silver Star and Purple Heart decorations.

Jesse W. Stribling

Subsequently, he was connected with the Judson Mills, Greenville, S. C., where he was in charge of the silk department. While at Judson Mills, he processed the first rayon to be run in the South. Later, he was connected with the Dunean Mills, at Greenville, and left a position there as assistant to the superintendent for a position with the Art Cloth Mills, Lowell, N. C. (now National Weaving Co., Inc.) Mr. Stribling has been a frequent contributor of technical and other articles to the magazine whose editorship he is assuming.

• NEW CHLORINE PLANT

Completion of one of the largest chlorine plants ever built as a single unit East of Mississippi River has been announced by Columbia Chemical Division of Pittsburgh Plate Glass Company, operators, and The H. K. Ferguson Company of Cleveland and New York, industrial engineers and builders.

Located at Natrium, W. Va., in a section noted for its wealth of natural resources, the new plant was constructed on schedule and has been in operation for more than a month. It was financed by Defense Plant Corporation.

In addition to manufacturing liquid chlorine—used for hundreds of industrial applications for war materiel—the plant also produces caustic soda as a co-product. Exact capacities were not announced.

• ARNOLD, HOFFMAN PURCHASES PLANT

E. H. Arnold, president of Arnold, Hoffman & Co., Inc. of Providence, R. I., recently announced the purchase of the modern plant illustrated herewith, which was formerly occupied by Refiners, Inc. and is located on North Tyrone Ave., Charlotte, N. C.

This building will house the company's Charlotte Office; also laboratory, manufacturing and warehouse facilities to supplement those at Providence, R. I. and Dighton, Mass. The offices will be occupied before Jan. 1, 1944 and the laboratory and manufacturing plant as soon thereafter as priorities will permit.

The plant was purchased to facilitate the handling of a rapidly growing southern business.

• WOOL RESTRICTIONS LIFTED

The War Production Board recently lifted all restrictions on the use of wool in the production of clothing, draperies, and upholstery fabrics.

Climaxing the trend of the last six months towards relaxation of wool supply controls as the wool supply picture improved and military requirements fell off from peak levels, WPB amended Order M-73 (Wool) to permit the use of raw wool without restriction, with these two exceptions:

(1) Use of finer grades of alpaca is banned except for military purposes.

(2) Only carpet wool and mohair are permitted for the manufacture of floor coverings.

Otherwise, all wool consumption quotas —the basic machinery for controlling use of the fiber for almost two years—were stricken out of the order.

Although wool consumption quotas for floor coverings were removed, officials said that the supply of carpet wool is so limited as to make very remote the likelihood of any increase in the current output of rugs. Carpet wool is largely imported from South America and has been received in this country in only small quantities since the start of the war.

While the action will affect the apparel field, quotas for several apparel yarns and fabrics has been relaxed previously to the point where in actuality clothing yarn and fabric producers were able to procure all the raw wool needed for capacity operations on the basis of facilities available.

• REPORT ON PRODUCTION AND SALES, SYNTHETIC ORGANIC CHEMICALS

The United States Tariff Commission issued recently a preliminary report on the production and sales in the United States of synthetic organic chemicals in 1942. The report gives the quantity of production and the quantity and value of the sales of coal-tar crudes, intermediates, finished coal-tar chemicals, and non-coal-tar chemicals. Statistics concerning certain intermediates, plasticizers, pharmaceuticals, and solvents are omitted from the 1942 report to avoid dislosure of information that might be of aid to the enemy.

The report shows that the value of sales of all intermediates, finished coal-tar and non-coal-tar products amounted to 932 million dollars in 1942, an increase of 28 per cent over the 1941 sales, which were the highest on record. The value of sales of intermediates was 46 per cent greater than in 1941 and that of non-coal-tar chemicals, 41 per cent greater.

Production figures are larger than those of sales because a considerable portion of the total output is consumed by producing companies in further processing. In 1942 the output of intermediates and finished coal-tar products combined amounted to 2 billion pounds, compared with 1.8 billion in 1941. The production of non-coal-tar chemicals increased from 5 billion in 1941 to 7 billion in 1942. Production of dyes, flavors and perfumes, and coal-tar resins showed the first decrease in several years, because of wartime limitations placed on the output of some types of these materials.

The production of coal-tar crudes was much higher in 1942 than in previous years. Chemical raw materials from petroleum sources amounting to 194 million pounds are reported for the first time.

Copies of the report may be obtained from the United States Tariff Commission, Washington 25, D. C., or from the Commission's office in the Customs House, New York 4, N. Y.

• JOINS PHILADELPHIA QUARTZ

Harold R. Hay, formerly with the U. S. Dept. of Agriculture, Northern Regional Laboratory, Peoria, Ill., has joined the Sales Development Staff of the Philadelphia Quartz Company, Philadelphia, manufacturers of sodium and potassium silicates. Mr. Hay is a graduate chemist from the University of Wisconsin and did post-graduate research at the Forest Products Laboratory. His headquarters will be the Company's general offices in Philadelphia.

Contribute to the NATIONAL WAR FUND

Give ONCE for ALL these:

USO
United Seamen's Service
War Prisoners Aid
Belgian War Relief Society
British War Relief Society
French Relief Fund
Friends of Luxembourg
Greek War Relief Association
Norwegian Relief
Polish War Relief
Queen Wilhelmina Fund
Russian War Relief
United China Relief
United Czechoslovak Relief
United Yugoslav Relief Fund
Refugee Relief Trustees
United States Committee for the Care of European Children

INSTALLING SUCTION PUMP PIPING

W. F. SCHAPHORST, M. E.

FIG. 1 shows an important detail that should be borne in mind when installing any kind of pump. Or, in the event that your pump is giving trouble, incorrect piping installation details such as shown here may be the reason why.

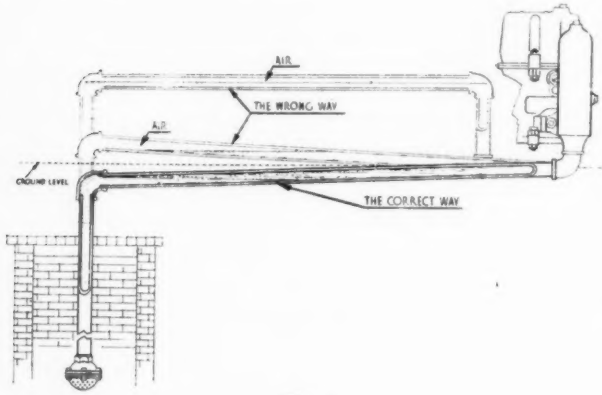


Fig. 1

Usually a small amount of air is present in all water hence if any point in the suction piping (from well to pump) is higher than the level of the pump, the air will automatically separate from the water and will form a pocket in the high point of the line. The air will gradually collect there until it reaches such a volume that it merely compresses and expands with the piston strokes. There will then, of course, be no flow of water.

The sketch shows the proper method of piping. Note that the suction line should be laid with a gradual slope from the pump to the water supply. The slope of the pipe should be at least 1 inch to each 15 feet.

Just above the proper piping method the wrong way is indicated by means of lighter lines. If suction piping is installed in this manner the air will collect along the top of the horizontal pipe as shown. If, for any reason, you are forced to use such a method of piping be sure to use a tee and plug instead of the first elbow. You can then release the accumulated air when necessary. Also above the proper piping method another wrong method is shown. Notice that the elbow leading to well is slightly higher than the pump cylinder. Notice how the air collects at that high point.

Careful attention to this diagram while installing suction piping will save time and trouble. The suction line must be air-tight. Special care must be taken to lead or paint all joints to guard against leaks. If the suction line leaks, the pump will not work.

An "almost horizontal" suction line is practical up to 1000 feet, but great care must be taken to gradually slope it from the pump to the well. The longer the suction line, the greater the strain on the suction valves in the pump. On suction lines over 1000 feet in length it is essential to use an extra vacuum chamber to relieve the suction valves and also to guard against water hammer.

USELESS FRICTION COSTS AS MUCH AS USEFUL FRICTION

W. F. SCHAPHORST, M.E.

CONSIDERABLE friction in most plants can be eliminated. Friction costs money. The useless friction costs just as much per horse power or kilowatt as does the useful friction. In fact, all of the power that is developed in most plants, and which the engine or motor gives up, is lost in friction somewhere or other. Power is seldom stored anywhere; therefore it is all lost. This is true of all power, everywhere.

Let us suppose, for instance, that in your plant 50 per cent of the friction is *useful* friction, while the remaining 50 per cent is useless. If you could eliminate the useless friction you would then have 100 per cent useful friction. It should be the aim of the plant operator, then, to eliminate as much useless friction as possible, add it to the useful side of the ledger, and thereby increase the capacity of his plant, if need be, without installing new equipment.

It may not pay to install ball bearings all over your plant, in place of present bearings, because ball bearings are rather expensive in first cost. While ball bearings do consume but little power, will that saving pay for the new bearings quickly enough? Ball bearings should not be used in places where the saving in power would amount to less than the interest on the first cost, plus the cost of depreciation. All of these figures and factors must be considered before ball bearings are installed in place of less expensive types. All reliable manufacturers agree that this is correct.

Main bearings are most important because they usually handle all of the power. Thus if efficiency of a main bearing is only 95 per cent, it will absorb 5 per cent of the power of the engine or motor. But, if the efficiency of 100 small bearings distributed all over the plant is 95 per cent, they will absorb no more power than will the single main bearing. It would hardly pay, therefore, to install 100 small ball bearings, whereas it is quite possible that it would pay well to equip the main journal with ball or roller bearings. Do not install new transmission equipment, though, unless you are certain that you cannot sufficiently improve your old transmissions, without it. Perhaps you can improve the old equipment. Have you tried?

A good way in which to test the friction load of an engine or motor—a method that does not involve the use of expensive testing machinery or instruments—a method that is so simple it should be used very often by every operator of machinery—is as follows:—

By means of your watch note the time required for your machinery to come to a dead stop after the power is shut off. That is all there is to it. Let me explain why this test is so good: Consider the flywheel of a 50 h.p. engine which runs at the normal rate of 250 r.p.m. That flywheel has a definite weight and contains a definite amount of stored energy while it is running. No matter what year, month, week, day, hour, minute, or second the flywheel is running, it contains exactly so much stored energy while running at the normal speed of 250 r.p.m. Therefore when you shut off the power the flywheel will continue to run for a while. The longer it runs the less the friction in your machinery. The problem therefore is simply that of making the stopping time of your machinery as great as possible by eliminating friction wherever you can.

Give the

Present

with a

Future—

WAR BONDS!

Research and Planning—

(Continued from Page 554)

by individuals and very small companies. The large established manufacturers did not lay the foundation for the electrical industry or of the automobile industry. Individuals and little groups of adventurous men risked their all on the ideas they applied.

No one can predict with accuracy what new discoveries will come out of research laboratories searching for the solutions of dye problems. It is not possible to know in advance whether or not some of these discoveries will make possible entirely new industries which do not appear to be related to the dye research which gave them birth.

Alexander Graham Bell did not plan to invent the telephone. He was working, at the start, on the problem of making it possible for the deaf to hear. The final result of his endeavors was the creating of the great telephone industry. Virtually nothing went according to plan with him.

There are at least two aspects of research. One is the search for new knowledge. The other is the application of this knowledge to business and industry in such a manner as to provide new jobs for those who work and new things for those who consume or use. Some of this knowledge might be applied best by large established concerns. Some can be of such a nature that only new and small concerns, owned and managed by men willing to risk everything they have can apply it effectively. There is little about the whole thing which can be planned ahead for the simple reason it cannot be known in advance what is going to happen or what will be required to apply new discoveries.

Dyes though still connected in the public mind with textiles have had their use extended to many other industries. Present photographic emulsions could not be manufactured in the variety they are without dyes. The outlook is that the photographic industry will become a larger and larger user of dyes in the future. As a matter of fact research in dyestuffs could create entirely new industries which are not even imagined now as well as making profound changes in many of the present ones.

Obviously, where there are so many uncertainties and possibilities, planning, if carried too far, becomes restrictive rather than progressive. Though each individual laboratory and each independent research worker must do a certain degree of planning, must lay out certain programs, any overall centralized planning which carries with it restrictions on what individuals and groups can do will prove retrogressive.

Real progress never has and never can be planned. It is the result of the combined efforts of millions of different individuals working out their own ideas. Because, in the past, there has been more freedom in this direction in the United States than in any other part of the world and the people of this nation have been so eager to take full advantage of that freedom we have surprised the world by our accomplishments. But, it has not been only the people who were born here who have recognized the advantages of that freedom. Many from other countries have been attracted to our shores by the freedom of action permitted and they have made their contributions. Too much centralized planning would change all this.

Throughout the nation there have been small groups of men or individuals experimenting with new ideas in the effort to make them commercially practical. This applies to textiles, dyes and all else. In many cases these ideas have to be applied in a small way at the start. They have not been developed to the point where large scale operations are possible and may not be so developed for some years to come. Yet, the foundations of new and large industries may be laid.

Where there is sufficient freedom and where there are real incentives nothing appears to be impossible. There are in this country business organizations which have come to

have a full realization of this fact. They have made it profitable for every employe to make suggestions which will help to reduce costs, improve products or service. Some of these organizations have been able to reduce costs to an almost unbelievable degree. It has not been centralized planning which has done all this, it has been the seeking and applying of new knowledge. In a sense every person working for these firms has been an individual research worker. He, constantly, is searching for a better and more economical way of doing what he is doing himself or someone else is doing. He has been persuaded to this point of view because it has been demonstrated to him he will profit from any improvement which results from his ideas.

On a small scale, this illustrates what has been happening right along in the United States as a whole. The incentives have been freedom of action and possible personal profits. In those industries where there have been the greatest freedom for individual effort and the greatest prospects for individual profits, there has been the greatest progress.

Though the textile industry in this country is old and perhaps too much standardized and too thoroughly planned, the dye industry, itself, is comparatively new. Until the development of our dye industry after the last war we had to depend, to a very considerable degree, on imports. No longer do we have to depend upon other nations or the research work conducted in foreign countries for the dyes we need now. There is good reason, however, to believe only a start has been made in the direction of what is possible in the future.

It is too soon for any standardizing, for determining who shall and who shall not do research work in this field, what direction that work must take. The field in which dyes play a part constantly is expanding. The greater it expands the greater the need of more diversified research and the greater the need of still further commercial application of the knowledge gained. The commercial application calls for specialized research which will have its size determined by the volume of the commercial products produced in each case.

General overall planning, most certainly, is out of the question. It only can prove restriction and hold back progress when greater and greater progress is essential. It is going to require the utmost in the combined effort of everyone to pay off the huge national debt we will have after this war and at the same time maintain our present standard of living. This combined effort will not be realized to the degree needed unless there is sufficient freedom of action and sufficient profit incentive to stimulate individual effort. Research to a greater degree than ever before is going to be needed and practical application of all new knowledge gained will have to be made without delay. Holding back the application of new knowledge for any reason could prove disastrous. Overall, centralized planning tends to hold back such applications. It does so because such planning tends to set up fixed standards, to limit action and perhaps to reduce incentives.

•CLASSIFIED•

The rate for "Position Wanted" advertisements in this column is 2 cents a word—with a minimum of 50 cents per insertion. For all other types of advertisements—i.e., help wanted, machinery or supplies for sale—the rate is $6.25 per column inch or less per insertion.

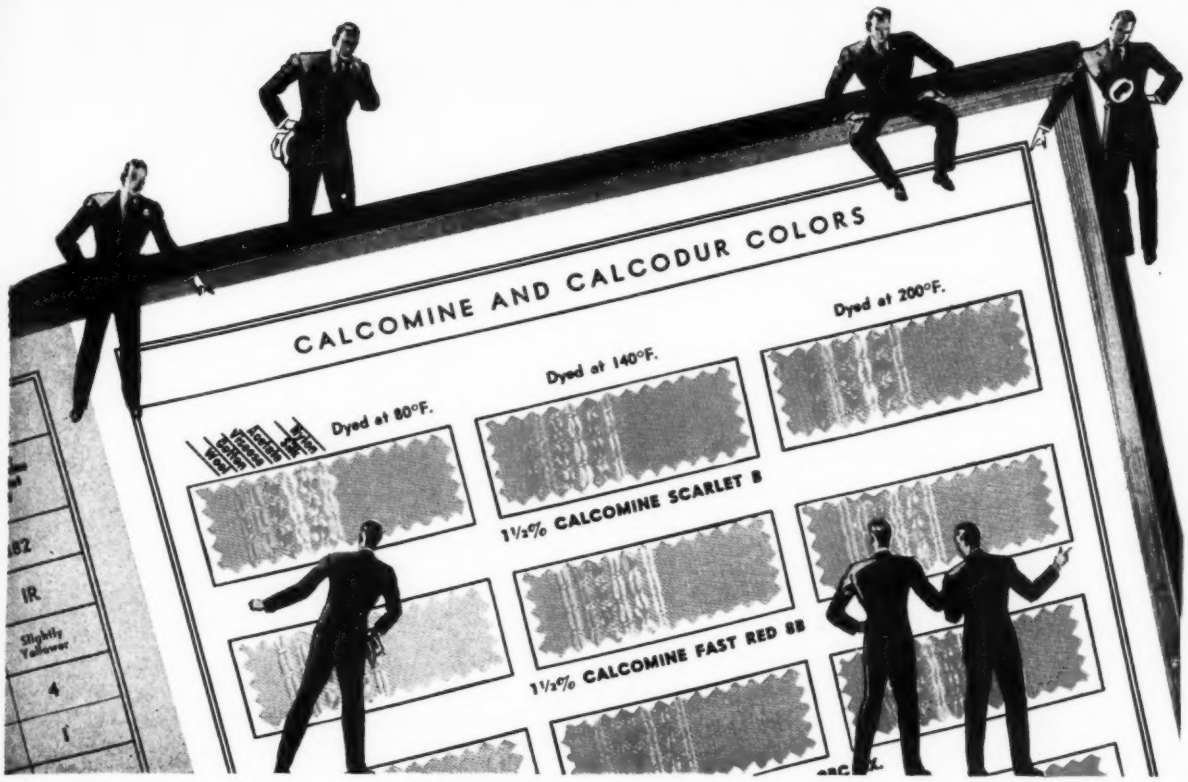
POSITION WANTED: Hosiery Dyer. 17 years' experience covering all types of dyes and a wide variety of fabrics. Draft exempt. Write Box No. 474, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.

WANTED: High class salesman with practical cotton dyehouse experience and business background, for established manufacturer of pressure dyeing machinery. Excellent opportunity and future for right man. Write full history of experience, age, nationality and salary to Box No. 487, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.

WANTED: *Research Dye Chemist*—A splendid opportunity for a man with experience in synthesis of dyestuffs and intermediates. This man must have initiative and imagination. He must have ability to develop new dyes to meet current and post-war problems. This opening is on the research staff of a large progressive organization manufacturing chemicals, plastics, and cellulose derivatives. Applicants should submit record of personal data, education, experience and salary expected. Applicants must not be engaged in war work and must have sanction of the local War Manpower Commission. Write Box No. 491, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.

POSITION WANTED: Chemist, organic major, master of arts, seeking war work. Prefers position in mill, dye house, finishing or printing plant, or with firm manufacturing synthetic yarn. Will consider other offers. Presently employed but not at highest skill. Release obtainable. Age 27. Single. Draft 2-A. Write Box No. 492, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.

POSITION WANTED: Textile specialty chemist with broad experience in analysis, development and production of wet-processing chemicals for textile industry, among which can be included: Soaps, sulfonated oils and fats, detergents, dispersing agents, sizes, softeners, delusterants, printing gums, water-repellents, mildew and flameproofing compounds, cationic finishes, resin solutions and emulsions, etc. Capable of directing laboratory and/or production. Married; draft deferred, age 28. Write Box No. 493, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.



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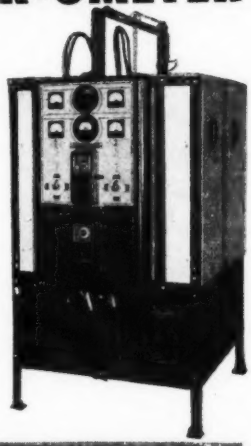

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Throughout the textile trade, the name "DIASTAFOR" stands for fine quality and uniformity. And its reputation is backed by true performance.

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CUT TIME AND COST—IMPROVE RESULTS IN ALL WET PROCESSING WITH BURK-SCHIER PINE SOLVENT XX

Burk-Schier Pine Solvent XX Reduces Surface and Interfacial Tensions . . . Wets, Penetrates, Suspends, Disperses . . . . ids Detergents and Dyes. A Little Does a Lot and Does It Well.

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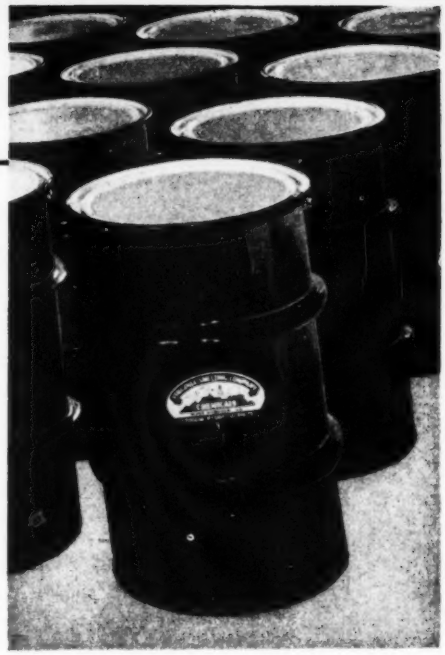

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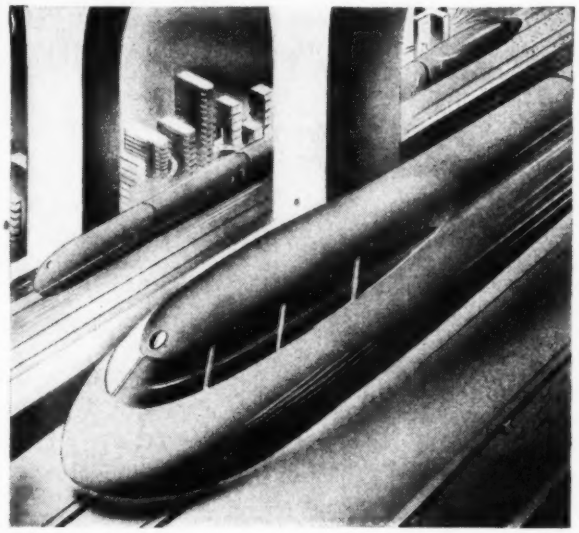

Today . . . armored carriers of destruction such as the General Sherman tank are smashing enemy resistance. From the fabrication of their steel to the machining of their parts, Solvay alkalies are used! Soda Ash, Caustic Soda and many important related products are supplied from 3 great strategically located plants. Established in 1881, Solvay is America's largest producer of high quality alkalies.

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CALCIUM CHLORIDE
MODIFIED SODAS

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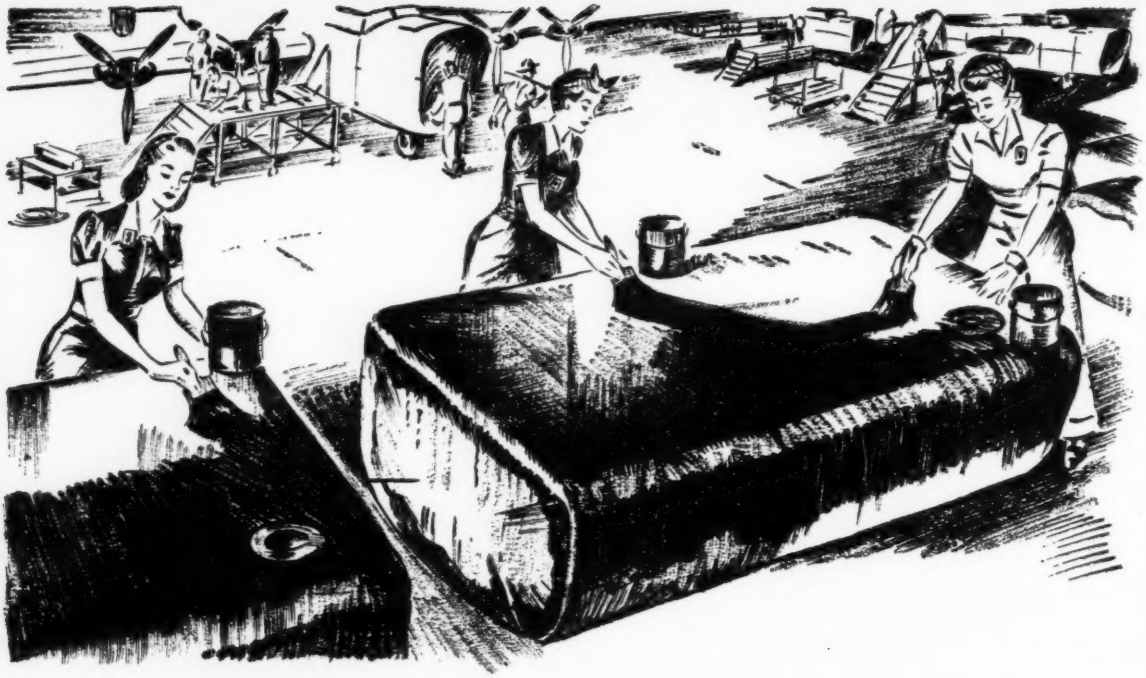

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